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Environmental
assessment for IR
315-5(9)1, I-315-
14th Street SW
interchange,
Cascade County,
Montana (control

# Environmental Assessment
# for

# IR 315-5 (9) 1
# I-315—14th Street SW Interchange
# Cascade County, Montana

(Control #0349)

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and

Section 2-3-104, 75-1-201, M.C.A.

by the

**U.S. Department of Transportation**
**Federal Highway Administration, Region 8**

and the

**State of Montana**
**Department of Transportation**
**Highways Division – Engineering**

**February 1994**

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# ENVIRONMENTAL ASSESSMENT

IR 315-5(9)1

I 315 - 14th Street S.W. Interchange

IN

CASCADE COUNTY

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This document is prepared in conformance with MEPA requirements and contains the information required for an Environmental Assessment under the provisions of ARM 18.2.237(2) and 18.2.239. It is also prepared in conformance with NEPA requirements for an Environmental Assessment under 23 CFR 771.119.

Submitted pursuant to 42 U.S.C. 4332(2)(C)
by the
U.S. Department of Transportation
Federal Highway Administration
and
Montana Department of Transportation

Submitted by: ______________________ Date: 2/10/94
Montana Department of Transportation
Environmental and Hazardous Waste Bureau

Reviewed and Approved
for Distribution: ______________________ Date: 2-10-94
Federal Highway Administration
for Division Administrator

# TABLE OF CONTENTS
# FOR I-315/14TH ST. S.W. INTERCHANGE
# IR 315-5(9)1
# ENVIRONMENTAL ASSESSMENT

Page

**Environmental Assessment** . . . . . . . . . . . . . . front

**Table of Contents** . . . . . . . . . . . . . . . . . . i

**List of Figures and Tables** . . . . . . . . . . . . . . ii

I. **Purpose of and Need for Action** . . . . . . . . . . . . . 1
- A. Description of Proposed Action . . . . . . . . . . . 1
- B. Existing Conditions . . . . . . . . . . . . . . . . 5
- C. Need for Proposed Action . . . . . . . . . . . . . . 6

II. **Alternatives** . . . . . . . . . . . . . . . . . . 8
- A. No Build . . . . . . . . . . . . . . . . . . . . . 8
- B. Full Diamond Interchange . . . . . . . . . . . . . . 8
- C. Half Diamond Interchange . . . . . . . . . . . . . . 8
- D. Partial Cloverleaf Interchange . . . . . . . . . . . 9

III. **Impacts** . . . . . . . . . . . . . . . . . . . . . 10
- A. Land Use Impacts . . . . . . . . . . . . . . . . . 10
- B. Social and Economic Impacts . . . . . . . . . . . . 12
- C. Relocation Impacts . . . . . . . . . . . . . . . . 17
- D. Air Quality Impacts . . . . . . . . . . . . . . . . 18
- E. Noise Impacts . . . . . . . . . . . . . . . . . . . 19
- F. Water Quality Impacts . . . . . . . . . . . . . . . 20
- G. Floodplains/Permits . . . . . . . . . . . . . . . . 21
- H. Natural Resources . . . . . . . . . . . . . . . . . 21
  - 1. Wetlands . . . . . . . . . . . . . . . . . . . . 21
  - 2. Threatened or Endangered Species . . . . . . . . 21
  - 3. Rare Plants or Species of Concern . . . . . . . . 22
- I. Historic and Archeological Impacts . . . . . . . . . 22
- J. Hazardous Waste Impacts . . . . . . . . . . . . . . 23
- K. Construction Impacts . . . . . . . . . . . . . . . 23
- L. Seeding Plan . . . . . . . . . . . . . . . . . . . 23

IV. **Comments and Coordination** . . . . . . . . . . . . . 25
- List of Preparers . . . . . . . . . . . . . . . . . . 26

APPENDIX A NOISE ANALYSIS

APPENDIX B BIOLOGICAL RESOURCES REPORT

APPENDIX C PROJECT CORRESPONDENCE

APPENDIX D DISTRIBUTION LIST

## LIST OF FIGURES

Page

**Figure #1** Project Vicinity Map . . . . . . . . . . . . . iii

**Figure #2** Project Location Map . . . . . . . . . . . . . iv

**Figure #3** Interchange Layout Detail . . . . . . . . . . . 2

**Figure #4** Land Use Map . . . . . . . . . . . . . . . . . 12

**Figure #5** Traffic Volumes . . . . . . . . . . . . . . . 15

## LIST OF TABLES

Page

**Table #1** Population: Great Falls and Project Area . . . 16

**Table #2** Noise Levels . . . . . . . . . . . . . . . . . 20

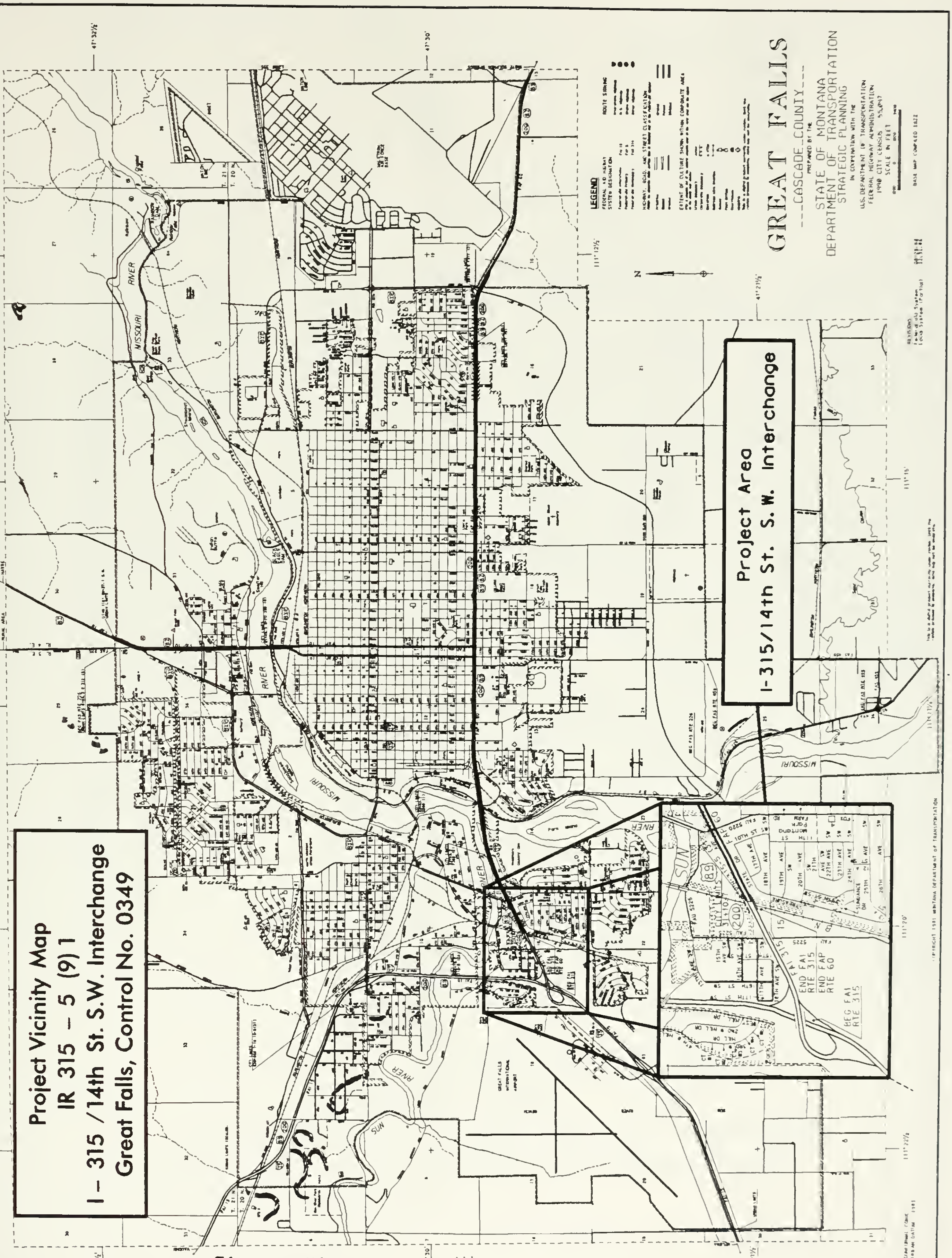
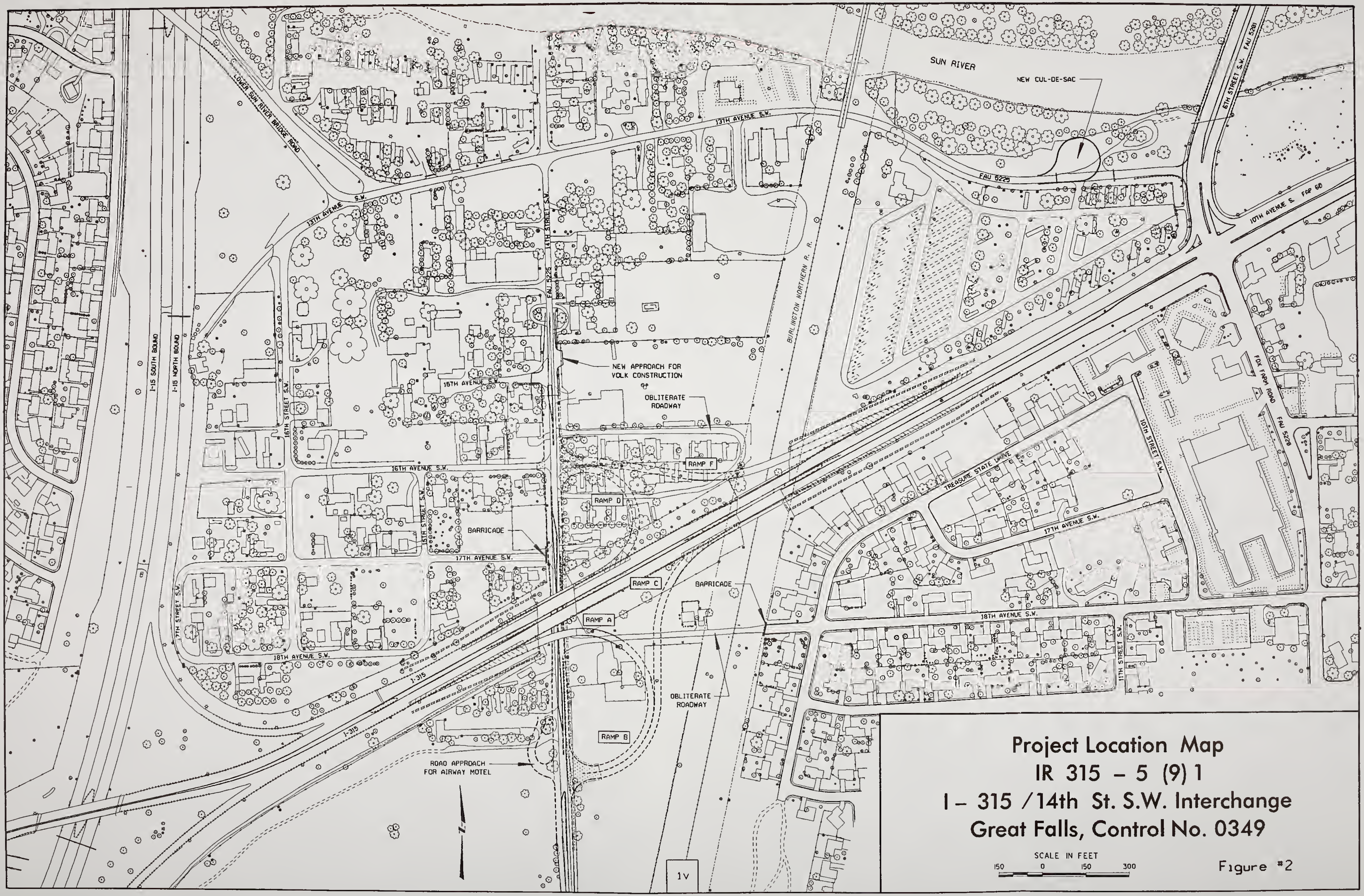

Project Vicinity Map
IR 315 – 5 (9) 1
I – 315 /14th St. S.W. Interchange
Great Falls, Control No. 0349
Project Area
I-315/14th St. S.W. Interchange
GREAT FALLS
CASCADE COUNTY
PREPARED BY THE
STATE OF MONTANA
DEPARTMENT OF TRANSPORTATION
STRATEGIC PLANNING
IN COOPERATION WITH THE
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
1990 CITY CENSUS 55,097
SCALE IN FEET
LEGEND
MISSOURI RIVER
SUN RIVER
GREAT FALLS INTERNATIONAL AIRPORT
END FAI RTE 315
END FAP RTE 60
BEG FAI RTE 315
10TH ST SW
14TH ST SW
11TH ST SW
CITY LIMITS
FAI 315
FAP 60
47°30'
111°20'
111°15'

Figure #1



## Project Location Map
## IR 315 – 5 (9) 1
## I – 315 / 14th St. S.W. Interchange
## Great Falls, Control No. 0349

Figure #2

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# I.

# PURPOSE OF AND NEED FOR ACTION

## A. Description of Proposed Action

This proposed project is located near the southwest boundary of the City of Great Falls in Cascade County. The proposed action involves construction of a partial cloverleaf interchange on I-315 at 14th Street S.W.; a mill and fill (resurfacing) for the entire length of I-315 (MP 0.00± to MP 1.397±); reconstruction of 14th Street S.W. from south of Ramp B to 13th Avenue S.W.; grading and plant mix surfacing all of 16th Avenue S.W., a portion of 16th Street S.W., and an unpaved portion of 13th Avenue S.W.; construction of one cul-de-sac; and closure of two streets with barricades. Major construction activities will consist of the following:

1. Construction of ramps and bridges for the interchange (see Figure #3).

   Ramps A, B, C, and D will meet minimum standards for a 48 km/h (30 mph) design speed, and Ramp F will meet minimum standards for a 65 km/h (40 mph) design speed. The maximum downhill grade will be -5.0% on Ramp A and the maximum uphill grade will be +5.33% on Ramp D. All ramps will provide for a 65 km/h (40 mph ) minimum stopping sight distance.

   Side slopes on the ramps will be 3:1 or flatter except in areas where there are right-of-way restrictions. The fill slopes on Ramps A, C, D, and F will be affected by right-of-way considerations. As a consequence, fill slopes on these four ramps will be replaced with retaining walls or a combination of 2:1 fill slopes and retaining walls.

   Included with construction of the new ramps will be a full width mill and fill for the existing ramps at the 10th Avenue South Interchange, and for the eastbound and westbound sides of I-315 for it's entire length (MP 0.00± to MP 1.397±).

   Two new bridges will be constructed, one over 14th Street S.W. for Ramp A, and one over the Burlington Northern railroad tracks for Ramp F. The new bridge for Ramp A will be approximately 7.3 m wide x 41.8 m long (24.0 ft x 137 ft) and the new bridge for Ramp F will be approximately 7.3 m wide x 56.4 m long (24.0 ft x 185 ft). In addition to the new bridges, three existing bridges will have to be widened to accommodate the interchange ramps. The three bridges to be widened are as follows:

   a. The northern bridge over 14th Street S.W. will be widened on the north side to accommodate Ramp D.

   b. The northern bridge over the Burlington Northern Railroad will be

# Interchange Layout Detail
# IR 315 – 5 (9) 1
# I – 315 /14th St. S.W. Interchange
# Great Falls, Control No. 0349

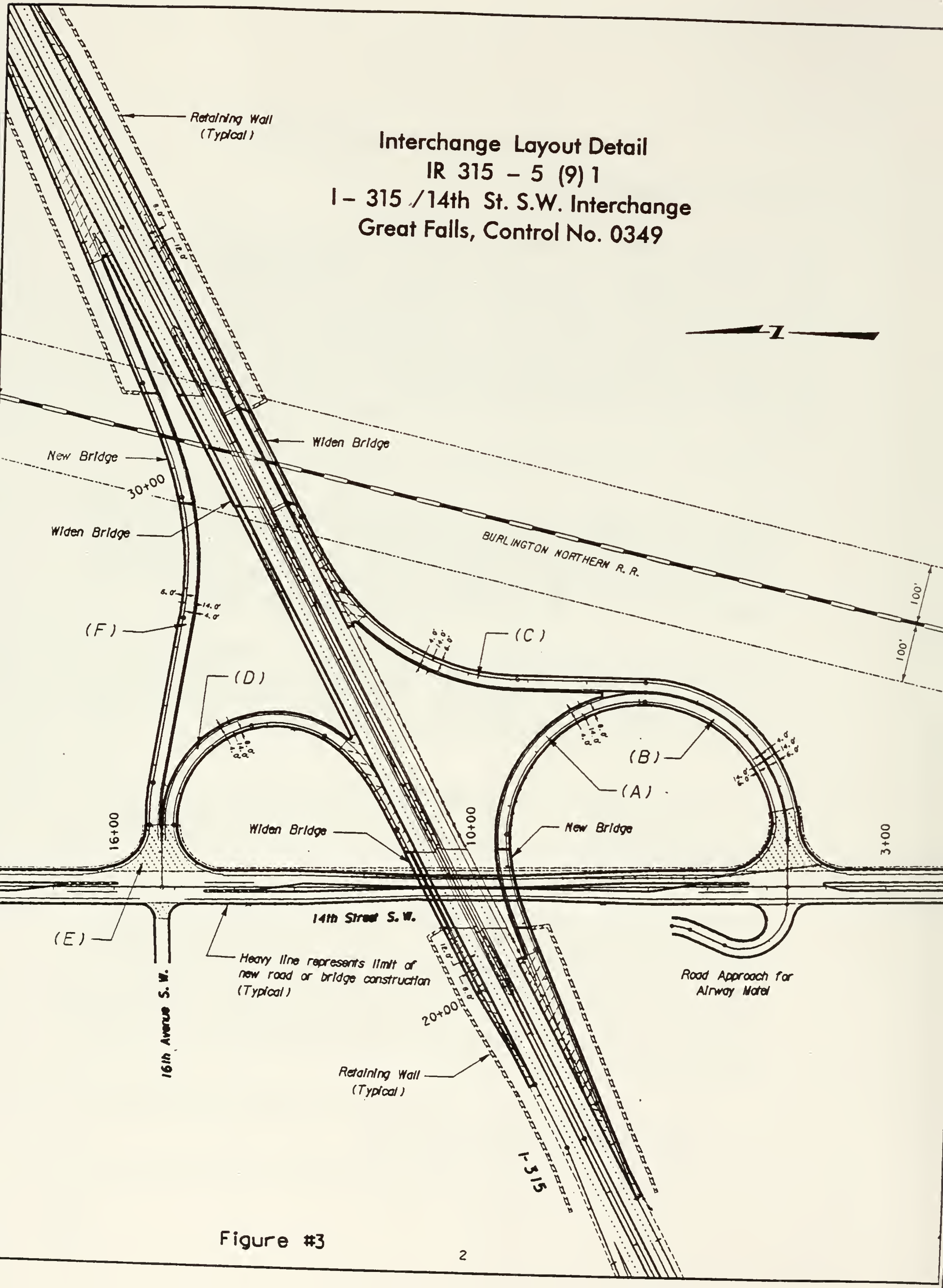


Figure #3

widened on the north side to accommodate Ramps D and F.

c. The southern bridge over the Burlington Northern Railroad will be widened on the south side to accommodate Ramp C.

2. Reconstruction of 14th Street S.W. from 218± m (715± ft) south of Ramp B, north to the intersection with 13th Avenue S.W (see Figure #2).

   From the starting point of reconstruction, 218± m (715± ft) south of Ramp B, north to a point 65.9± m (216± ft) south of Ramp B, 14th Street S.W. will be tapered from it's existing width of 7.3 m (24 ft) to 17.0 m (56 ft). This section of reconstruction will not include curb and gutter, sidewalk, median or street lighting.

   From where the taper ends, 65.9± m (216± ft) south of Ramp B, north to 15th Avenue S.W. (excluding the area under the existing I-315 bridge) the existing 7.3 m (24 ft) section width of 14th Street S.W. will be widened to 17.0 m (56 ft). Under the existing I-315 bridge the section width will be narrowed to 12.2 m (40 ft), primarily by reducing the median width (see Figure #3). New curb and gutter, new sidewalk on the east side of 14th Street S.W., raised median with left turn bays, signing, street lighting, and storm drain work are to be included in this section of roadway.

   Starting at 15th Avenue S.W., the roadway section will be tapered to a 7.9 m (26 ft) width and then continue north to the intersection with 13th Avenue S.W. This section of roadway will not include curb and gutter, sidewalk, median or street lighting.

3. Construction of one new cul-de-sac and closure of two streets with barricades will be included as part of this project to either help control access to the interchange or improve safety. Locations of the cul-de-sac and barricades are as follows (see Figure #2):

   a. A barricade will be placed near the western right-of-way line of 14th Street S.W., on 17th Avenue S.W., to control access. Appropriate signing and markings will be included.

   b. A barricade will be placed near the eastern right-of-way line of the Burlington Northern Railroad, on 18th Avenue S.W., to control access. Appropriate signing and markings will be included. The portion of 18th Avenue S.W. between 14th Street S.W. and the barricade will be obliterated and the railroad crossing removed (see Figure #2).

   c. A cul-de-sac will be constructed approximately 91.5 m (300 ft) west of 6th Street S.W., on 13th Avenue S.W., to improve safety. In the area between the cul-de-sac and 6th Street S.W. a bike path will be constructed on the old road bed of 13th Street S.W. The cul-de-sac will have curb and gutter, utilize plant mix surfacing, and will be designed to provide the least impact possible to the environment and adjacent landowners.

A June, 1990, Memorandum of Understanding (MOU) between the then Department of Highways, City of Great Falls and Cascade County agrees to the closing of 13th Avenue S.W. (Lower Sun River Road) and 18th Avenue S.W. as described above. The closure of 17th Avenue S.W. was not mentioned in the MOU. John Mooney (Director, Great Falls City - County Planning Board) stated in a phone conversation that in his opinion a new MOU would not be required. However, if a new MOU is required to allow for closure of 17th Avenue S.W. it will be obtained prior to contract letting.

4. Construction of a road approach on 14th Street S.W., across from Ramp B, for access to the Airway Motel (see Figure #3).

   The road approach will be 8.5 m (28 ft) wide, have curb returns with a 9.1 m (30 ft) radius, be approximately 45.7 m (150 ft) in length, and be paved with plant mix surfacing. The road approach will replace two existing approaches off of 14th Street S.W. The approach will curve towards the north, as can be seen in Figure #3, and will connect to the area served by the most southern of the two existing approaches.

5. Grading and plant mix surfacing all of 16th Avenue S.W., a portion of 16th Street S.W., and an unpaved portion of 13th Avenue S.W. (see Figure #2). Plant mix surfacing will be placed to match the existing gravel surface width as follows:

   a. All of 16th Avenue S.W., from 14th Street S.W., west to 16th Street S.W.

   b. A portion of 16th Street S.W., from it's intersection with 16th Avenue S.W., north to it's intersection with 13th Avenue S.W.

   c. A portion of 13th Avenue S.W., from it's intersection with 16th Street S.W., northeast to the junction of Lower Sun River Bridge Road and 13th Avenue S.W. The remainder of 13th Avenue S.W., extending to the northeast, is already paved.

There are two other proposed projects in this part of Great Falls that are related to this proposed action in terms of connecting routes and traffic patterns. These two related projects are tentatively scheduled for contract letting after this project.

Project No. F 60-2(26)96 will involve roadway reconstruction in the immediate vicinity of the intersection at 10th Avenue South and Fox Farm Road/6th Street S.W. Asphalt pavement will be replaced with concrete pavement in order to reduce rutting, and changes will also be made in lane use and geometrics to enhance traffic flow.

Project No. F 60-2(25)93 involves reconstruction of 10th Avenue South from the east end of Warden Bridge east 2.53 km (1.57 miles) to 20th Street North. The width of 10th Avenue South will be increased to accommodate six lanes of traffic and the asphalt pavement will be replaced with concrete pavement from the bridge end to 18th Street North. Reconstruction of the roadway will also involve water line, storm drain, traffic signal and street lighting work. The beginning of project F 60-2(25)93, at the east end of Warden Bridge, is approximately 2.4 km (1.5 miles) east of this I-315 interchange project.

The purpose of these two related projects, in addition to improving the riding surface, is to reduce congestion and improve traffic flow in this area of Great Falls. Both of the proposed projects will be reviewed under their own environmental documents, and neither will have any individual or cumulative significant environmental impacts on this proposed I 315 - 14th Street S.W. Interchange project.

## B. Existing Conditions

A discussion on the status of this proposed project is presented in the **Comments and Coordination** section of this document. The discussion includes the history of the project, a list of agencies that have been solicited for information, actions taken to date, and actions required in the future.

I-315 was constructed by the Montana Department of Transportation (MDT) in 1967 with a plant mix surface width of 20.7 m (68 ft). There are four driving lanes, and bridges at 14th Street S.W. and the Burlington Northern railroad tracks. I-315 extends from the 10th Avenue South Interchange at MP 0.00 northeasterly to MP 1.397 where it becomes 10th Avenue South (FAP 60).

Fourteenth Street S.W. (FAU 5225) was constructed by the City of Great Falls (date unknown) and has a plant mix surface width of 7.3 m (24 ft) with two driving lanes.

Tenth Avenue South is the major transportation link serving the southern portion of Great Falls and is classified as a principle arterial. It serves not only as a major east-west crosstown connector, but is a regional transportation link for I-15 traffic to the towns of Belt, Lewistown, and White Sulfur Springs by way of U.S. 87/89 (FAP 60).

Most of the major shopping areas and retail outlets in Great Falls are not located in the project area; they are either farther east on 10th Avenue South, in the fairgrounds area to the northeast, or in the central business district.

Existing land use in the project area is varied (see Figure #4), with the majority being residential in nature. In a letter dated July 16, 1993 the Great Falls City-County Planning Board identified 15 known commercial properties in the immediate vicinity of this proposed project.

## C. Need for Proposed Action

The need for this proposed action is due to the fact that access to the project area has become limited over the years, and where available is not desirable from a traffic operations or safety standpoint.

The area which would be served by the interchange is in general bounded by I-15, the Burlington Northern railroad tracks, and the Sun River (see Figure #2). A large area west of I-15 would also be served by means of the Lower Sun River Bridge Road overpass. The interchange will provide improved access for the project area with the City of Great Falls and the surrounding region. The proposed project is an integral part of the Great Falls area comprehensive plan and will compliment the city-county planning boards long range plans for the city. The project is currently part of the approved and updated 1990-2010 Great Falls Transportation Plan Update, and approved 1993-1997 Transportation Improvement Program (TIP).

A look at traffic patterns in the area reveals that traffic has historically used the following routes for access, and that these routes have either been removed, are unsafe, or are inadequate for present demands:

1) 14th Street S.W. Sun River Bridge

The 14th Street S.W. Sun River Bridge was removed in 1983 as part of a Corps of Engineer's flood control system.

2) 13th Avenue S.W.

The intersection of 13th Avenue S.W. with 6th Street S.W. is very undesirable from a traffic operations and safety standpoint, and will be replaced with a cul-de-sac as part of this project. Accident statistics for the intersection show that between September 1990 and June 1993 twenty accidents occurred. Of the twenty accidents, eighteen were directly attributable to traffic movements involving 13th Avenue S.W.

3) 18th Avenue S.W. and Park Garden Road

Both Park Garden Road (see Figure #5 for location) and 18th Avenue S.W. route traffic by means of Fox Farm Road to the very heavily used intersection at 10th Avenue South and Fox Farm Road/6th Street S.W. Park Garden Road and 18th Avenue S.W. are two-lane city streets which were designed to primarily serve local traffic instead of being major connectors between a large residential area and Fox Farm Road. The fact that they were designed to serve local traffic in a residential area makes them inadequate for use as major access routes for the project area.

In order to provide limited access to the interchange, 18th Avenue S.W. will be terminated with a barricade east of the Burlington Northern Railroad right-of-way. Park Garden Road will be left as is.

In addition to providing better access to the area, the proposed project will also reduce traffic volumes on Park Garden Road, 18th Avenue S.W., 13th Avenue S.W., and Fox Farm Road (see Figure #5). The lower traffic volumes will be a benefit to the residents along these streets, and will also help relieve congestion on Fox Farm Road and at the intersection of 10th Avenue South and Fox Farm Road/6th Street S.W. As a result of the reduced congestion on Fox Farm Road and at the intersection of 10th Avenue South with Fox Farm Road/6th Street S.W., a major portion of this growing urban area of southwest Great Falls will also benefit.

# II.

# ALTERNATIVES

The following paragraphs describe the various alternatives that were considered for this proposed project. All of the alternatives were considered in an attempt to find the solution that would best satisfy the stated purpose and need of the proposed project. Only alternate **"D"**, the **"preferred alternative"**, fulfilled the purpose and need of the proposed project, and is practical to build. As the only practical alternative, alternate **"D"** is the only alternative evaluated in detail in this document.

## A. "No Build"

The "no build" alternative implies that the existing street network will be maintained more or less as is. Since the objective of this proposed project is to improve access to the area (see **Purpose of and Need for Action**), and since the "no build" alternate would do nothing to accomplish that, the "no build" alternate has been rejected.

## B. "Full Diamond Interchange" *

* A full diamond interchange is formed when a one-way diagonal type ramp is provided in each quadrant for either exiting or entering the major roadway. It provides full access to and from the major roadway.

This design was considered, and it would fulfill the stated purpose and need by providing improved access to the project area.

However, the 10th Avenue South Interchange entrance ramp for northbound traffic on I-15 begins only 143± m (470± ft) west of 14th Street S.W. (see Figure #2). The I-15 northbound exit ramp for traffic entering I-315 ends only 268± m (880± ft) west of 14th Street S.W.

This does not provide enough room for the construction of exit and entrance ramps west of 14th Street S.W. that will allow for weaving maneuvers, and compliance with design guidelines.

Due to the close proximity of the 10th Avenue South interchange this alternative is impractical and has therefore been rejected.

## C. "Half Diamond Interchange" *

* A half diamond interchange is formed when a one-way diagonal-type ramp is provided in only two quadrants. It provides partial access by means of an exit ramp for one side of the major roadway, and an entrance ramp for the other side of the major roadway.

This design was considered, and while it would require less right-of-way than a partial cloverleaf interchange, it would not provide full access to the project area.

A half diamond interchange on the west side of 14th Street S.W. is not practical due to the lack of room between 14th Street S.W. and the 10th Avenue South Interchange, as described above in alternate B.

A half diamond interchange east of 14th Street S.W. would provide one exit ramp and one entrance ramp for access in and out of 14th Street S.W. The exit ramp would be for traffic heading west on I-315 that needs access to the 14th Street S.W. area. The entrance ramp would be for traffic from 14th Street S.W. that needs to proceed east on I-315.

Traffic heading east on I-315 would not have access to 14th Street S.W., and traffic from 14th Street S.W. that needs to proceed west on I-315 would not be able to do so.

Because of the limited access a half diamond interchange would provide, this alternative has been rejected.

## D. "Partial Cloverleaf Interchange" *

* A partial cloverleaf interchange is formed when a combination of loop type ramps are used in conjunction with diagonal type ramps in less than all four quadrants. In this case three loop type ramps and one diagonal type ramp would be used in the eastern quadrants. It would provide full access to and from the major roadway.

A partial cloverleaf interchange on the west side of 14th Street S.W. is not practical due to the lack of room between 14th Street S.W. and the 10th Avenue South Interchange, as described above in alternate B.

A partial cloverleaf interchange on the east side of 14th Street S.W. will provide two exit ramps and two entrance ramps. The four ramps will provide access to all traffic into and out of the project area (see Figure #3) .

While project impacts from this alternate will be slightly greater due to right-of-way requirements (when compared to a half diamond interchange) this is the only alternative being considered that will fulfill the stated purpose and need of the proposed project. It has therefore been selected as the "**preferred alternative**".

The cost estimate for this proposed project, using a partial cloverleaf interchange on the east side of 14th Street S.W., is roughly $6,200,000.

# III.

# IMPACTS

This proposed project will provide a full access facility that will improve present and future operating conditions of the street network in the project area. There will be some short term temporary impacts and some permanent impacts due to construction.

The impacts are listed below and are not considered to be significant.

## A. Land Use Impacts

Current land use in the vicinity of the proposed project is varied (see Figure #4), with the predominant use being classified as residential. Those areas within the city limits and adjacent to the project are zoned as follows:

A - "A" Residence District
B - "B" Residence District
C - "C" Residence District
Sub - Suburban District
MH - Mobile Home Residence District
LB - Local Business District
GC - General Commercial District
U - Unincorporated Land

Those areas within the county and adjacent to the project are zoned as follows:

R-1 - Suburban Residential District
R-2 - Low Density Residential District
MH - Mobile Home District
B-2 - General Commercial District

In a letter dated July 16, 1993 the Great Falls City-County Planning Board identified 15 known commercial properties in the immediate vicinity of the project.

As currently planned, this proposed project will require partial or complete right-of-way purchase of 18 parcels, with 4 of the parcels involving commercial properties. Eight of the parcels will be within the city limits and ten outside of the city limits. Approximately 4.2 ha (10.3 acres) of new right-of-way will be required for the project.

The interchange will be a limited access facility. Private approaches along 14th Street S.W. will not be allowed from 91.5 m (300 ft) south of Ramp B to 91.5 m (300 ft) north of Ramp F. Existing approaches for the Airway Motel (north of Ramp B) and Volk Construction (north of Ramp F) will be closed and new access provided outside the limited access area (see Figure #2). A road approach will be constructed for the Airway Motel, as described previously in item 4 of the **Description of Proposed Action**. New access for Volk Construction will consist of a curb opening outside of the limited access area.

In addition to limiting access from private approaches, direct access from 17th Avenue S.W. and 18th Avenue S.W. will not be allowed. A barricade will be used to close 17th Avenue S.W. where it intersects with 14th Street S.W. A barricade will also be used to close 18th Avenue S.W. east of the Burlington Northern railroad tracks. Eliminating direct access to 14th Street S.W. from these two streets will result in improved traffic patterns and capacity.

Completion of this proposed project will in all likelihood accelerate development in the project area. Commercial development will be most likely to occur in the immediate vicinity of the interchange. Increased residential development is almost certain to occur in all areas served by the interchange due to the improved access.

It is also possible that developers will request zoning changes that would allow more commercial activities in the area. The proposed interchange has been designed for the existing zoning pattern, so the addition of large traffic generators in the area could cause traffic demand to exceed the capacity of the existing street network. This would require additional development of the street network in the future.

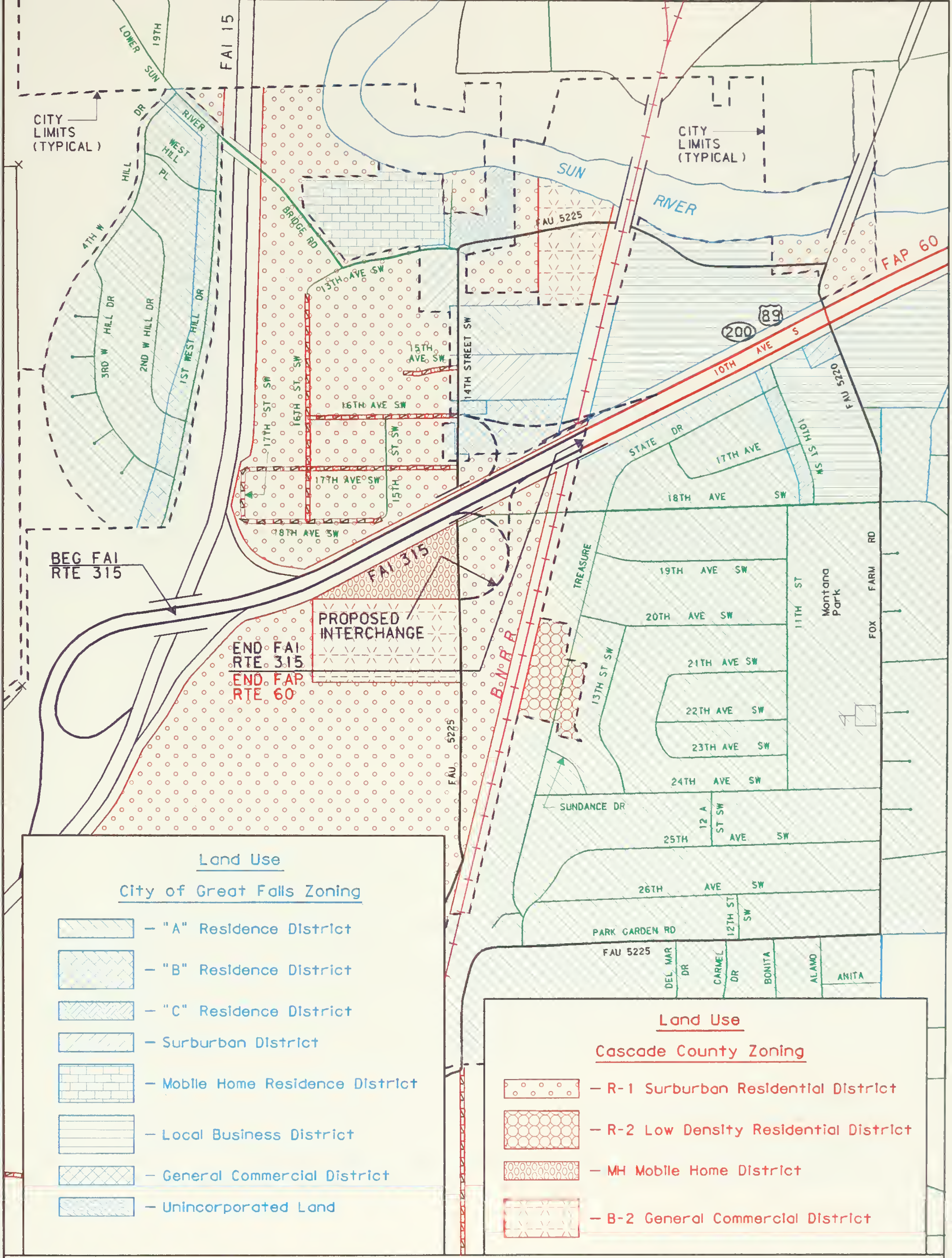
Land use controls and management of growth in the project area will be regulated by means of city and county zoning and subdivision regulations. This proposed project is an integral part of the Great Falls area comprehensive plan and will compliment the city-county planning boards long range plans for the city. The project was originally initiated through the Great Falls Transportation Planning Process by the Technical Advisory Committee and the Policy Coordinating Committee in 1979; and was subsequently approved by the Policy Coordinating Committee in November, 1986. This project is currently part of the approved and updated 1990-2010 Great Falls Transportation Plan Update, and approved 1993-1997 Transportation Improvement Program (TIP).

Although completion of this proposed project could result in some change to the current land use, the overall effect would not bring about a major shift in existing land use conditions.

## B. Social and Economic Impacts

The social and economic impacts that have been identified and would result from construction of this proposed project are discussed below.

Two businesses (in one building south of 10th Avenue South) and a residential area (north of 10th Avenue South and east of 14th Street S.W.) will be disrupted by construction of the interchange (see Figure #2 and **Relocation Impacts**). In


CITY LIMITS (TYPICAL)
CITY LIMITS (TYPICAL)
FAI 15
LOWER SUN RIVER DR
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4TH W
3RD W HILL DR
2ND W HILL DR
1ST WEST HILL DR
BRIDGE RD
SUN RIVER
FAU 5225
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15TH AVE SW
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17TH AVE SW
18TH AVE SW
17TH ST SW
16TH ST SW
15TH ST SW
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14TH STREET SW
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FAU 5220
STATE DR
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FOX FARM RD
SUNDANCE DR
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FAU 5225
DEL MAR DR
CARMEL DR
BONITA
ALAMO
ANITA
Land Use
City of Great Falls Zoning
— "A" Residence District
— "B" Residence District
— "C" Residence District
— Surburban District
— Mobile Home Residence District
— Local Business District
— General Commercial District
— Unincorporated Land
Land Use
Cascade County Zoning
— R-1 Surburban Residential District
— R-2 Low Density Residential District
— MH Mobile Home District
— B-2 General Commercial District

Figure #4

addition to disrupting these areas, construction of the interchange could also result in areas adjacent to the ramp terminus changing from residential to commercial. However, the remainder of the residential areas near the interchange would retain their identity; and while they might be impacted to some degree, they would benefit from implementation of the proposal.

Since 17th Avenue S.W. will be closed, people west of 14th Street S.W., on 17th Avenue S.W. or 18th Avenue S.W. (see Figure #2), will have a two to four block longer travel distance to reach the interchange. This is a small inconvenience however, and will be more than offset by the ease of access the interchange will provide to 10th Avenue South.

Since 18th Avenue S.W. will be closed, people that are both east of the Burlington Northern railroad tracks and south of 10th Avenue South (see Figure #2) will have considerably longer travel distances when trying to reach 14th Street S.W. However, there are few traffic generators along 14th Street S.W. which would draw traffic from this area; so the increased travel distance will not be of great consequence. Residents in the area will actually benefit from the road closure because of decreased traffic volume on 18th Avenue S.W. (see Figure #5).

Because of the cul-de-sac on 13th Avenue S.W., people that are both east of 14th Street S.W. and north of 10th Avenue South (see Figure #2) will have increased travel distances when trying to reach 10th Avenue South or 6th Street S.W.. These residents will have to travel approximately 0.8 to 1.6 km (0.5 to 1.0 mile) farther to gain access to 10th Avenue South or reach the intersection of 10th Avenue South and Fox Farm Road/6th Street S.W. However, residents along 13th Avenue S.W. will also benefit from the cul-de-sac due to decreased traffic volume on the street (see Figure #5).

As stated previously in the **Need for Proposed Action**, the cul-de-sac on 13th Avenue S.W. is necessary due to the poor geometrics and operational characteristics at this location. The intersection of 13th Avenue S.W. and 6th Street S.W. is only 61± m (200± ft) north of the intersection at 10th Avenue South and Fox Farm Road/6th Street S.W. This close proximity, in conjunction with the high traffic volumes, precludes a safe intersection at 13th Avenue S.W. and 6th Street S.W.; and also reduces the capacity of the intersection at 10th Avenue South. Accident statistics for the intersection of 13th Avenue S.W. and 6th Street S.W. show that between September 1990 and June 1993 there were twenty accidents resulting in eight injuries. Of the twenty accidents, eighteen were directly attributable to traffic movements involving 13th Avenue S.W.

The traffic that now uses 13th Avenue S.W., 18th Avenue S.W., and Park Garden Road, for access to 10th Avenue South, will instead use the new interchange. As a result, the traffic volume on 14th Street S.W. will increase substantially (see Figure #5). To help alleviate the increase in traffic volume, 14th Street S.W. will be reconstructed, as described previously in the **Description of Proposed Action**.

A level of service analysis was done to evaluate how 14th Street S.W. would operate, after reconstruction, with the expected increase in traffic volume. The results of the analysis showed that with the new interchange and reconstruction of 14th Street S.W. the level of service (LOS) would be no worse than LOS "C" and probably at LOS "B". LOS is designated by the letters A through F, with level A being the best (condition of free flowing traffic) to level F being the worst (forced flow operations where both speed and volume can drop to zero). Traffic flow is expected to be uninterrupted and the design volume of 500 vehicles per hour (v.p.h.) falls well below the at capacity service volume of approximately 2600 v.p.h. This level of traffic volume will also have reasonable gap availability. Gaps in traffic on 14th Street S.W. will allow traffic on side approaches access with a minimal amount of conflict. It was the conclusion of the analysis that traffic would continue to be served very well by the two-lane roadway. A noise level analysis was also done for 14th Street S.W. (see **Noise Impacts**). The results showed that the noise level increase would not be substantial.

From the perspective of a resident on 14th Street S.W. the increase in traffic volume will not be desirable, but it will not result in significant impacts.

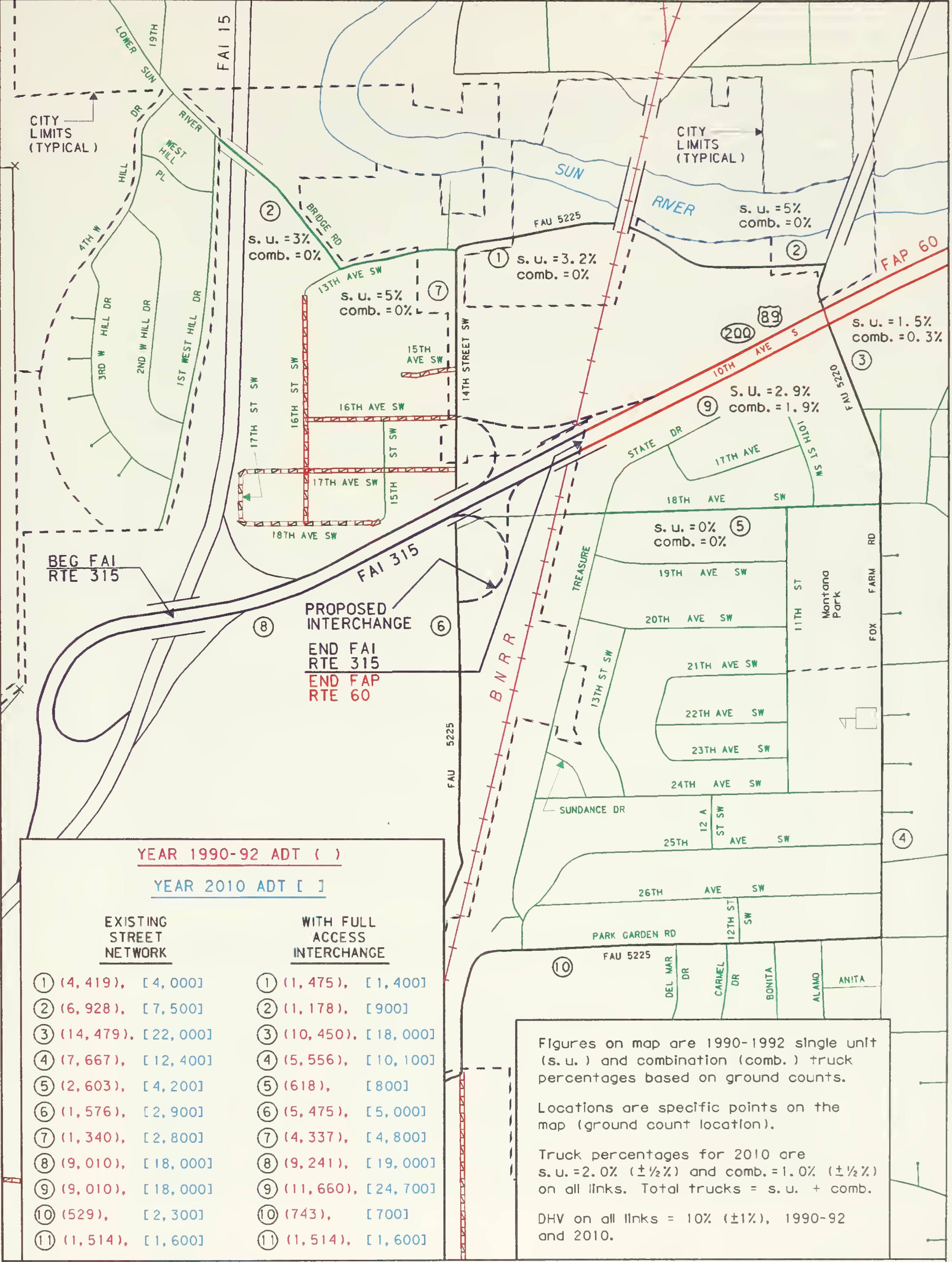
The only foreseeable effects on educational facilities and services in the area will be positive, with a reduction in traffic volumes in the vicinity of Meadowlark elementary school on Fox Farm Road.

Religious facilities and services, welfare facilities and programs, and social and cultural facilities and programs will not be effected by the proposed project.

Public health, and public well being would be effected to some degree by the safer access provided by the interchange.

Emergency facilities will not be effected. However, emergency services provided to the area by a fire station on Fox Farm Road (just south of 10th Avenue South) will be effected. The closure of 18th Avenue S.W. and the cul-de-sac on 13th Avenue S.W. will affect emergency service as follows:

> Instead of gaining access to 14th Street S.W. by proceeding directly west on 18th Avenue S.W., emergency vehicles will have to travel north on Fox Farm Road an additional 0.34± km (0.21± miles) to 10th Avenue South where they can proceed west to the new interchange. This change will result in slightly longer response times, but will not effect service to any appreciable degree.
>
> Access to the area just north of 10th Avenue South and west of 6th Street S.W. (see Figure #2) will be effected due to the cul-de-sac on 13th Avenue S.W. Emergency vehicles could proceed north on Fox Farm Road, then west on 10th Avenue South to the new interchange, then north on 14th Street S.W., and then east back down 13th Avenue S.W. An additional 1.53± km (0.95± miles) would be added to the route and response time would be increased by



YEAR 1990-92 ADT ( )

YEAR 2010 ADT [ ]

| | EXISTING STREET NETWORK | WITH FULL ACCESS INTERCHANGE |
|---|---|---|
| ① | (4,419), [4,000] | (1,475), [1,400] |
| ② | (6,928), [7,500] | (1,178), [900] |
| ③ | (14,479), [22,000] | (10,450), [18,000] |
| ④ | (7,667), [12,400] | (5,556), [10,100] |
| ⑤ | (2,603), [4,200] | (618), [800] |
| ⑥ | (1,576), [2,900] | (5,475), [5,000] |
| ⑦ | (1,340), [2,800] | (4,337), [4,800] |
| ⑧ | (9,010), [18,000] | (9,241), [19,000] |
| ⑨ | (9,010), [18,000] | (11,660), [24,700] |
| ⑩ | (529), [2,300] | (743), [700] |
| ⑪ | (1,514), [1,600] | (1,514), [1,600] |

Figures on map are 1990-1992 single unit (s. u.) and combination (comb.) truck percentages based on ground counts.

Locations are specific points on the map (ground count location).

Truck percentages for 2010 are s. u. = 2.0% (±½%) and comb. = 1.0% (±½%) on all links. Total trucks = s. u. + comb.

DHV on all links = 10% (±1%), 1990-92 and 2010.

Figure #5

approximately 2 minutes, assuming an average vehicle speed of 48 km/h (30 mph). It will also be possible to proceed north on Fox Farm Road, cross 10th Avenue South, drive over the curbing at 6th Street S.W., and then proceed west on the new bike path to the 13th Avenue S.W. cul-de-sac. Although going over the curb at 6th Street S.W. would be a much shorter route, and response time would remain essentially the same, it may not be a desirable alternative, or practical when there is snow cover.

There are no known communities or concentrations of minorities in the project area, and none of the known relocatees are a member of a minority. Table 3.1 is a summary of the population within the City of Great Falls and the immediate project area by race.

**Table #1**, Population: Great Falls and Project Area

| Race | Population | | Percentage of Total Population * | |
|---|---|---|---|---|
| | Great Falls | Project Area | Great Falls | Project Area |
| White | 62,850 | 2001 | 92.6 | 95.7 |
| Black | 1,050 | 5 | 1.5 | 0.2 |
| American Indian | 2,855 | 55 | 4.2 | 2.6 |
| Asian/Pacific Island | 753 | 25 | 1.1 | 1.2 |
| Other | 393 | 4 | 0.6 | 0.2 |
| Total | 67,901 | 2,090 | 100 | 100 |

**Source:** Montana Department of Commerce, Census and Economic Information Center (1990 Census of Population and Housing)

* Percentages may not add up to 100% due to rounding.

As stated previously in **Land Use Impacts**, completion of this proposed project will in all likelihood result in increased commercial and residential development in the area. In general, increased development will also increase the desirability of an area and cause the property values to rise. However, residents immediately adjacent to the interchange may find that their property is less desirable for residential purposes and more suited for commercial development. Property owners in the area would see the value of their property go up along with taxes. From a city or county viewpoint the increase in tax revenue would be positive, and could offset the revenue lost from removing 4.2 ha (10.3 acres) from the tax rolls for construction of the interchange.

Overall, the proposed project will have beneficial impacts on the neighborhood and the community of Great Falls.

## C. Relocation Impacts

This proposed project will require partial or complete right-of-way purchase of 18 parcels of land. Acquisition of these parcels will involve displacement of a day care center, a landscape service, and the residents in five houses and approximately 20 mobile homes. The two businesses (in one building), all of the houses, and all but two of the mobile homes are located east of 14th Street S.W. in the area required for construction of the ramps. Two of the mobile homes are located on the west side of 14th Street S.W. in the mobile home court north of the Airway Motel. There will be no access available to these two (northern most) mobile homes when the existing approaches are eliminated.

In order to mitigate the unavoidable effects of the right-of-way acquisition and displacement of individuals and businesses the Montana Department of Transportation (MDT) will relocate the displacees in accordance with the *Uniform Relocation Assistance and Real Property Acquisition Act* of 1970 (**P.L. 91-646**) and the *Uniform Relocation Act Amendments* of 1987 (**P.L. 100-17**).

The MDT will provide advance notification of impending right-of-way acquisition, and before acquiring right-of-way, all properties will be appraised. Owners of property to be acquired will be offered and paid just compensation for their property interests.

No person lawfully occupying real property will be required to move without at least 90 days written notice, and no occupant of a residential property will be required to move until decent, safe, and sanitary replacement housing is made available.

A relocation advisor from the MDT Right-of-Way Bureau will contact each relocatee to determine individual needs, answer questions, and provide assistance in finding replacement housing. Relocation services and payments are provided without regard to race, color, religion, sex, or national origin.

Eligible displaced owner-occupants in addition to being entitled to moving expenses, *may* be eligible for a purchase supplement to:

1. Make up the difference, if any, between the amount paid for the acquired dwelling and the cost of a comparable decent, safe, and sanitary dwelling available on the private market;

2. Provide reimbursement of incidental expenses, such as document preparation, credit reports, and other eligible closing costs incurred in buying a replacement dwelling;

3. Make payment for eligible increased interest cost resulting from having to obtain another mortgage at a higher rate of interest.

Owner-occupants and tenants *may* also be eligible to receive a supplemental payment to rent a replacement dwelling or room, or to use as a down payment (including closing costs) on the purchase of a replacement dwelling.

Occupants of mobile homes *may* be eligible for a payment to move personal property and owners *may* be entitled to a payment for the cost of moving the mobile home to a replacement site.

Displaced businesses in addition to being entitled to moving expenses, payment for direct loss of tangible personal property, and search expenses for replacement property *may* be eligible for a payment to reestablish the enterprise at a replacement site, or a lump sum payment in lieu of actual moving expenses, personal property losses, search expenses and reestablishment expenses.

The brochure which describes in detail the MDT's relocation assistance program is "Your Rights As A Displaced Person". It is distributed to all potential displacees by the relocation advisor.

The relocation of displaced individuals and businesses on this proposed project will be carried out humanely as possible. The public was made aware of the relocation impacts in an earlier environmental assessment that was prepared for this proposed project and at a subsequent Public Hearing (see **Coordination and Comments**).

### D. Air Quality Impacts

The 10th Avenue South corridor from 2nd Street South to 54th Street South is a "not-classified" nonattainment area for carbon monoxide (CO). The strategy proposed in the Carbon Monoxide State Implementation Plan (SIP) to reach attainment of the CO standards, is to rely on newer cleaner vehicles. There are no Transportation Control Measures (TCM's) in the SIP.

The I-315 interchange project, which is approximately 2.4 km (1.5 miles) west of the nonattainment area, is identified in the Great Falls 1990-2010 Transportation Plan Update as a committed improvement. A finding of conformity in accordance with the Clean Air Act Amendments of 1990, was made on the plan update by the U.S. Department of Transportation on November 14, 1991.

The I-315 interchange project is contained in the 1993-1997 Transportation Improvement Program (TIP). On January 29, 1993, the U.S. Department of

Transportation, in accordance with the Clean Air Act Amendments of 1990, determined the Great Falls urban area TIP met the requirements of the Interim Conformity guidance issued June 7, 1991.

Although the I-315 interchange project comes from both a conforming plan and program a project level conformity determination is not required by federal regulations for projects outside of the designated nonattainment area. However, based on our experience with other projects that relieve congestion by improving traffic flows, it is anticipated that this proposed project will have a beneficial impact on CO emissions in the area, and that there will be no adverse impacts.

## E. Noise Impacts

With road closures proposed on 17th Avenue S.W., 18th Avenue S.W., and 13th Avenue S.W. the new interchange will serve as the major point of access for the entire area. This will cause noise levels in the vicinity of the interchange to increase.

A noise level analysis (see Appendix A) was performed comparing the present peak hour traffic volume with the projected peak hour traffic volume in the year 2010. This was done for both the "no-build" and "build" alternatives. Table 3.2 is a summary of the noise level analysis. Residences that are located closest to the roadways experiencing an increase in noise levels were chosen as test sites.

The noise level analysis follows FHWA guidelines established under 23 CFR 772 (Procedures for Abatement of Highway Traffic Noise and Construction Noise). Noise impacts occur when the future traffic noise levels substantially exceed the existing noise levels (an increase of 10 dBA or greater) or when the Noise Abatement Criteria (NAC) are approached (1 dBA less than) or exceeded.

The NAC used for this area was Category B, which includes schools, residences, motels, churches, and public meeting facilities. The NAC Category B level is Leq(h)=67dBA.

The findings of the noise analysis demonstrate that although noise levels would increase for both the "no-build" and "build" alternatives by the year 2010, neither would result in a "substantial" increase in noise levels or exceed the NAC for Category B.

**Table #2**, Noise Levels

| Site Number * | Existing Peak Hour | Design Year "No Build" | Design Year "Build" |
|---|---|---|---|
| 1. 36.6 m (120 ft) west of 14th St. | 53 dBA | 56 dBA | 59 dBA |
| 2. 15.2 m (50 ft) west of 14th St. | 57 dBA | 60 dBA | 62 dBA |
| 3. 15.2 m (50 ft) west of 14th St. | 63 dBA | 65 dBA | 66 dBA |
| 4. 21.3 m (70 ft) west of 14th St. | 62 dBA | 65 dBA | 66 dBA |
| 5. 41.1 m (135 ft) west of 14th St. | 56 dBA | 60 dBA | 62 dBA |
| 6. 114.3 m (375 ft) east of Treasure State Drive | 50 dBA | 52 dBA | 54 dBA |
| 7. 85.4 m (280 ft) south of I-315 | 57 dBA | 60 dBA | 59 dBA |
| 8. 41.2 m (135 ft) south of I-315 | 61 dBA | 63 dBA | 64 dBA |

* For a more precise location of test sites, see maps in the noise analysis report (Appendix A).

## F. Water Quality

This proposed project will be in compliance with both the *Montana Water Quality Act* for *Section 3(a)* authorizations, and the *Montana Stream Preservation Act* (**MCA 87-5-501** through **509**, inclusive).

All work will also be in accordance with *Section 319* of the *Water Quality Act* of 1987 (**P.L. 100-4**). The control of water pollution for both specific and non-point sources will be as described in the National Pollutant Discharge Elimination System Permit (**P.L. 92-500**).

The MDT contractor will acquire a *Clean Water Act* (**33 U.S.C. 1251 - 1376**) - *Section 402*/Montana Pollutant Discharge Elimination System permit from the Montana Dept. of Health & Environmental Science's Water Quality Bureau.

An Erosion Control Plan will be submitted to the Montana Department of Health & Environmental Science's Water Quality Bureau in compliance with their Montana Pollutant Discharge Elimination System Regulations (**ARM 16.20.1314**) on this proposed project. Best Management Practices will be used in the design of this Plan using guidelines as established in MDT's Highway Construction Standard Erosion Control Workplan. The objective is to minimize erosion of disturbed areas during and following construction of this proposed project.

## G. Floodplains/Permits

The floodplain for the Sun River as delineated under Federal Emergency Management Administration (FEMA) criteria will be encroached upon by this proposed project. The City of Great Falls administers this floodplain for FEMA, and a floodplain development permit will be obtained by the MDT.

The cul-de-sac on 13th Avenue S.W. will encroach upon the 500 year floodplain. Other construction which could encroach on the 100 year and 500 year floodplains involves ditch grading and installation of a larger storm drain, but is dependant on the final design of 14th Street S.W.

These encroachments will not promote or encourage development within this delineated floodplain, nor increase flood hazards. This proposed project is therefore in compliance with E.O. #11988.

## H. Natural Resources

On August 5th and 6th, 1992, the project site was inspected by a MDT biologist to assess potential impacts to the biological resources in the area. A Biological Resources Report (see Appendix B) was prepared as a result of that inspection, and through correspondence with the U.S. Department of the Interior's Fish and Wildlife Service (USFWS), the Montana Department of Fish Wildlife & Parks (MDFWP), and the Montana Natural Heritage Program (MNHP). The following is a brief summary of that report.

### 1. Wetlands

The nearest wetland environment to this proposed project is the Sun River and it's associated riparian corridor. With the exception of work for the cul-de-sac on 13th Avenue S.W. (near 6th Street S.W.), the closest construction activities to the river will be approximately 91.5 m (300 ft) away. Construction activities at the cul-de-sac will be approximately 31.5 m (100 ft) from the river.

The conclusion of the Biological Resources Report is that construction activities will be accomplished without involving wetlands or other aquatic resources.

### 2. Threatened or Endangered Species

The USFWS identified the bald eagle (Haliaeetus leucocephalus), peregrine falcon (Falco peregrinus), and black-footed ferret (Mustela Nigripes) as Threatened/Endangered (T&E) species that could possibly occur in the project area. Based on the nature and specific location of the proposal the USFWS concluded that project related impacts to T&E species were not expected.

The conclusions of the Biological Resources Report are that the proposed action is **"not likely to adversely effect"** the bald eagle and peregrine falcon, and will have **"no effect"** on the black-footed ferret.

### 3. Rare Plants or Species of Concern

The field review and correspondence with the MNHP and MDFWP revealed no rare plants or species of special concern in the project area.

## I. Historic and Archeological Impacts

A cultural resources survey was initially prepared for this proposed project in 1980 by Historical Research Associates. At that time a half diamond interchange was being considered for use. Their survey revealed that no archeological sites were present and that structures being impacted had compromised architectural integrity or had lost integrity of setting, and did not meet criteria for the National Register.

Subsequent to the 1980 report the proposed design was changed to a partial cloverleaf interchange, and a second cultural resources report was prepared. This report was done by Charline G. Smith of the University of Montana, Anthropology Department, in 1983.

A computer search done for her report yielded no known archeological sites in or near the project area; and an on site field review revealed that the entire area has been extensively disturbed by previous construction activities. It was therefore concluded that no prehistoric cultural remains exist in the project area.

One structure, the "Anderson house", was recommended for further evaluation in her report.

All of the above material, including information on the "Anderson house", was made available to the state Historic Preservation Office, and in a October 1, 1985 letter they concurred that none of the identified properties could meet National Register Criteria of Significance.

On June 17, 1993 MDT historian Jon Axline traveled to Great Falls and examined several additional structures that will be impacted. His conclusion was that buildings not included in the original inventories dated to the mid to late 1950s and therefore do not qualify for the National Register of Historic Places; and that the MDT's Section 106 obligations for this project had been met.

If archeological sites are discovered during construction, the MDT will proceed in compliance with **36 CFR 800**.

The Department of State Lands also stated in a August 19, 1993 letter that they had no major concerns regarding cultural resources on the parcel of land they own.

### J. Hazardous Waste Impacts

The proposed project area was inspected for possible hazardous waste sites. The only site identified was at the former Montana Department of Fish Wildlife & Parks headquarters. This site, and the metal quonset hut that was the old headquarters building, is located just east of 14th Street S.W. on 18th Avenue S.W.

There were two 4166.7 liter (1100 gallon) underground storage tanks located at the site, with one tank having a history of leaking. Further investigation revealed that the Montana Department of Health and Environmental Sciences (MDHES) was requiring the MDFWP to have both tanks, and any contaminated soil, removed.

That work has subsequently been done. In a January 14, 1993 letter from the MDHES to the MDFWP it was stated that the petroleum contamination problem at the site had been adequately addressed, that the public health and the environment had not been adversely affected, and that the case was considered resolved.

This site will be acquired to allow for construction of Ramps A, B, and C.

### K. Construction Impacts

Construction related activities will result in some short term adverse impacts which cannot be avoided. The impacts will be temporary in nature and should only last for the duration of the construction activities.

Construction related impacts will include emissions from asphalt plants and crushers; dust, emissions and increased noise levels from construction equipment; possible erosion of areas disturbed by construction activities; and inconvenience to road users in the form of delays and temporary surfacing.

These impacts will be minimized as much as possible through the use of proper construction practices. Air quality permits from the State Air Quality Bureau will be required for asphalt plants and crushers; dust will be controlled by watering or other accepted methods; erosion will be minimized by implementation of the Erosion Control Plan; and a traffic control plan will be developed and construction activities organized to minimize inconvenience to motorists and property owners.

On I-315, traffic in each direction will be confined to the inside lane during construction. On 14th Street S.W., construction activities will be coordinated in a manner that will allow passage of traffic on the roadway. Access to all businesses and residences will be maintained during construction.

### L. Seeding Plan

The Seeding Special Provisions for this proposed project are as follows:

## SEEDING SPECIAL PROVISIONS

### AREA DESCRIPTIONS

Area 1 All areas disturbed by construction

### SEEDBED PREPARATION REQUIREMENTS

See Article 610.13(B) Condition Seedbed Surface and Article 210.02(J) and (K).

### SEEDBED APPLICATION

| | Method | Seeding Depth | Season of Seeding |
|---|---|---|---|
| Area 1 | Drill or Broadcast | ¼" to ½" deep | Oct. 15 thru May 20 |

### MULCH REQUIREMENTS

Area 1 None

### FERTILIZER APPLICATION

| | Year of Seeding (Lbs. Per Acre) | |
|---|---|---|
| | Nitrogen | P205 |
| Area 1 | None | 20 Min. 25 Max. |

### SEED MIXTURE

| Area | Species | Lbs. PLS Per Acre | *Substitute Species | Lbs. PLS Per Acre |
|---|---|---|---|---|
| 1-(a) | *Durar Hard Fescue* | 4 | (a) *Covar Fescue* | 4 |
| (b) | *Streambank Wg.* | 4 | (b) *Pubescent Wg.* | 4 |
| (c) | *Canadian Bluegrass* | 3 | (c) *Ky. Bluegrass* | 3 |

*Individual substitute species shall be used only if the recommended species is not available and substitution is approved by the engineer. Substitute (a) for (a), (b) for (b), etc.

### ADDITIONAL NOTES:

All areas too restrictive to drill seed may be broadcast seeded.

# IV.

# COMMENTS AND COORDINATION

This proposed project was initially originated through the Great Falls Transportation Planning Process by the Technical Advisory Committee and the Policy Coordinating Committee in 1979, and was subsequently approved by the Policy Coordinating Committee in November, 1986. The project is currently part of the approved and updated 1990-2010 Great Falls Transportation Plan Update, and approved 1993-1997 Transportation Improvement Program (TIP).

During the initial stages of project development comments were solicited from the public in the form of a Public Information Meeting on April 15, 1981. The public voiced several concerns and suggestions at this meeting, but were in general supportive of the proposed project. The City of Great Falls and the City-County Planning Board have also expressed support for the project.

An environmental assessment (EA) was previously prepared for this proposed project and approved for circulation on January 13, 1987. Following circulation a notice for a combined Location and Design Public Hearing was distributed. A Public Hearing was held March 14, 1988 in Great Falls. There were a considerable number of negative comments received at the hearing. Most of the comments were from people located in the immediate vicinity of the interchange. Comments were in regard to the increased traffic that is anticipated on 14th Street S.W., possible effects to fire protection, and the closures of 13th Avenue S.W., 17th Avenue S.W., and 18th Avenue S.W. Afterwards 28 letters and two separate petitions were received. The letters were about evenly split between being in support of the project or opposed to the project. One petition was a request to include the paving of 16th Street S.W. as part of the project if 17th Avenue S.W. was closed. Paving of 16th Street S.W. is now included as part of the proposed project. The other petition was to express opposition to the project due to the traffic increase that would occur on 14th Street S.W., and because of the feeling that the real reason the interchange was proposed was to reduce traffic congestion at the intersection of 10th Avenue South and Fox Farm Road/6th Street S.W. Copies of comments received from this Hearing and its transcript are on file at the MDT's Environmental & Hazardous Waste Bureau in Helena.

A revised EA and finding of no significant impact (FONSI) was sent to the FHWA on November 30, 1988. They were returned by the FHWA unapproved, with comments, on December 20, 1988. The comments were requests for clarification on why the cul-de-sac on 13th Avenue S.W. was necessary, and why the MDT had decided not to close 17th Avenue S.W. Please note that in this older EA 13th Avenue S.W. was referred to as Lower Sun River Road. In the **Social and Economic Impacts** section of this EA additional information has been provided on the necessity of the cul-de-sac at 13th Avenue S.W.; and the closure of 17th Avenue S.W. is now included as part of the project.

Project development in early 1989 more or less came to a standstill and a FONSI was not obtained. This new EA has been prepared after consulting with the Montana Office of the Federal Highway Administration, and is required because a FONSI was never obtained in conjunction with the original EA, and because of the number of years that have elapsed.

Agencies that have been contacted and who supplied information for this document include the Great Falls City-County Planning Board, Montana Department of

Commerce, Montana Department of Fish Wildlife & Parks, State Historical Preservation Office, Montana Department of State Lands (DSL), Montana Natural Heritage Program, and the U.S. Department of the Interior. Comments or information from these agencies are attached, or if too voluminous are on file with the MDT Environmental & Hazardous Waste Bureau in Helena.

The DSL was invited to be a Cooperating Agency on this proposed project on June 15, 1993 because they administer 4.7 ha (11.71 acres) of land in the southeast quadrant of the proposed interchange. The MDT will be acquiring 2.0 ha (4.88 acres) of the parcel for construction of Ramps A, B, and C. The DSL subsequently responded to the request with comments on September 24, 1993 (see Appendix C). The comments concerned revenue currently being generated by the land, value of improvements made to existing facilities, the fact that appraisals would have to be carried out, the fact that numerous easements exist either on or adjacent to the parcel, questioned the loss of mineral ownership, and the potential diminished value of the remainder of the parcel.

The MDT Right-of-Way Bureau will determine what easements exist on or adjacent to the DSL parcel and will not seek to obtain mineral rights. All other concerns will be resolved during right-of-way negotiations.

The DSL was furnished with a Rough Draft version of this document for review and comment. To date no comments have been received. If comments are sent in by the DSL at a later date, they will be included with the revisions made to this document after it is circulated.

Agencies other than the DSL that have jurisdictional and review responsibility include the City of Great Falls and Cascade County. They are included on the distribution list and will be furnished copies of this document for review.

The EA will be circulated and the public advised of it's availability, and where it may be obtained or reviewed. Comments will be invited from all interested parties. If appropriate, following receipt of comments, the MDT will prepare a separate document recommending a FONSI for the project. That document will incorporate this EA and any other appropriate environmental information.

## List of Preparers

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Montana Department of Transportation

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Federal Highway Administration, Montana Division

# APPENDIX A

# NOISE ANALYSIS

MAY 09 1991

**IR 315-5(9)1**
**Great Falls - I-315 Interchange**
**Noise Analysis**

Eight sites in the vicinity of the proposed project were selected as representative of locations most likely to experience potential noise level increases with interchange construction. The selected sites are shown on the attached Figure 1.

Noise levels were calculated for the present peak hour traffic and for the projected design year (design hourly) volumes. Following are the peak hour and design year Leq(h) dBA noise levels. The design year levels are given for both the "no-build" and "build" alternatives.

| Site # | Existing Peak Hour | Design Year "No-Build" | Design Year "Build" | Structure & Location |
|---|---|---|---|---|
| 1 | 53 | 56 | 59 | Residence 14th St. S.W. |
| 2 | 57 | 60 | 62 | Residence 14th St. S.W. |
| 3 | 63 | 65 | 66 | Residence 14th St. S.W. |
| 4 | 62 | 65 | 66 | Mobile Home 14th St. W. |
| 5 | 56 | 60 | 62 | Motel 14th St. S.W. |
| 6 | 50 | 52 | 54 | Residence Treasure State Dr. |
| 7 | 57 | 60 | 59 | Residence Treasure State Dr. |
| 8 | 61 | 63 | 64 | Residence Treasure State Dr. |

The Federal Highway Program Manual (FHPM) 7-7-3 defines noise impacts as occurring when the future traffic noise levels substantially exceed the existing noise levels (an increase of 10 dBA or greater) or when the Noise Abatement Criteria (NAC) are approached or exceeded. The NAC for Category B which includes schools, residences, motels, churches, public meeting facilities is Leq(h) = 67dBA.

**No-Build Alternative**

Traffic noise levels will increase 2-4 decibels, depending on site, by the design year. The average increase will be approximately 3 decibels. This is based on projected traffic growth with no change in existing roadway configuration.

**Build Alternative**

None of the study sites will experience projected design hour noise levels equalling or exceeding the NAC Category B level of Leq(h) = 67 dBA. Noise levels along 14th Street S.W. (Sites 1-5) will increase from 3-6 decibels, depending on site, by the design year. Noise levels at the backs of the residences along Treasure State Drive (Sites 6-8) will increase 2-4 decibels by the design year. Constructing the interchange will increase the projected traffic volumes along 14th Street S.W. Although there will be perceivable noise level increases at Sites 1-5, these are not considered to be substantial. Noise level increases at Sites 6-8 are also not considered to be substantial.

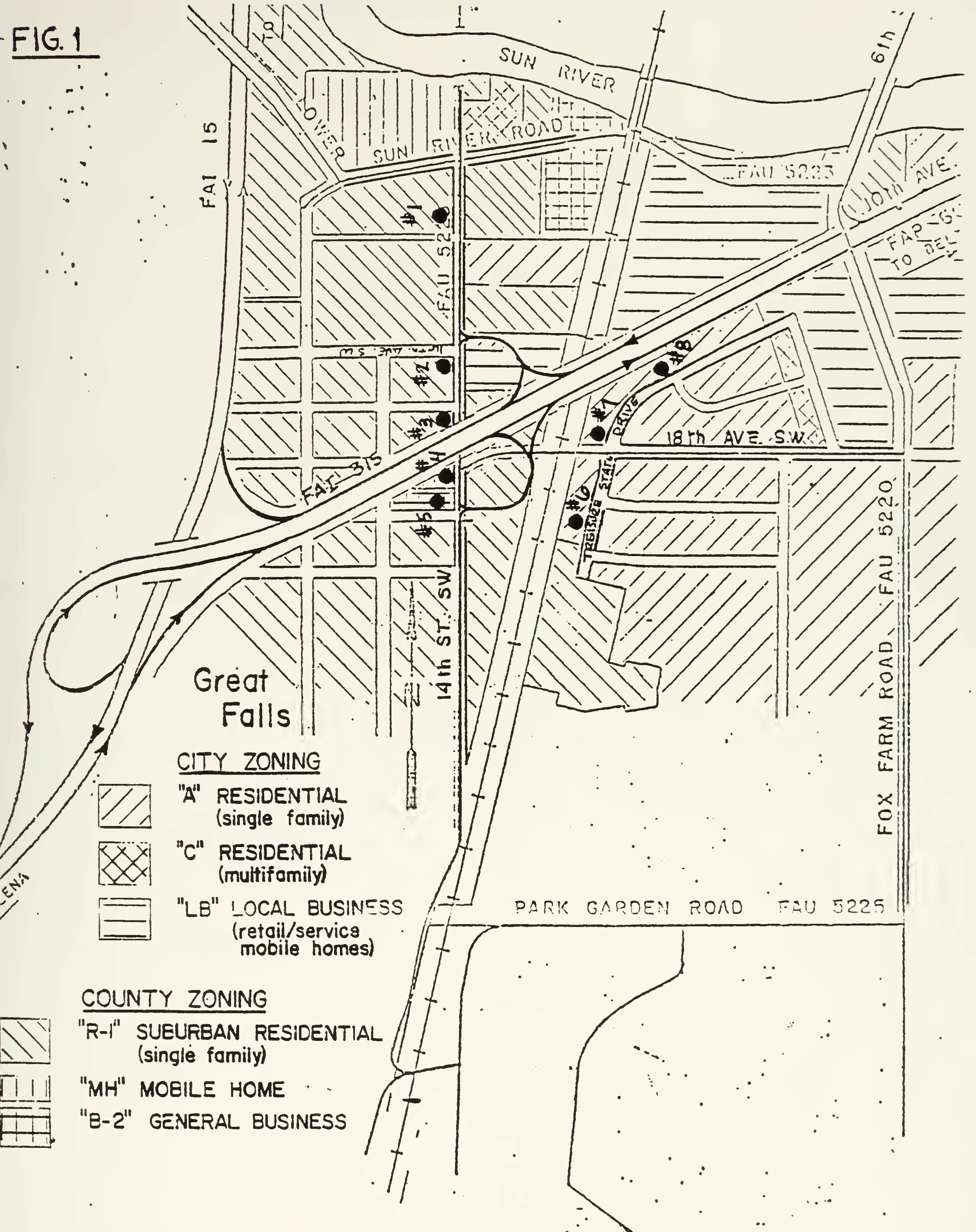
Closing 18th Avenue S.W. to through traffic will result in less of an increase than the "no-build" at the back side of Site 7. Noise levels at the residences fronting all along 18th Avenue S.W. will decrease with closure of this roadway.

Construction of this project will not result in unacceptable increases in traffic noise levels.

GJS:D:ENV:86.mb

cc: Project File

FIG. 1



GREAT FALLS - I·315 INTERCHANGE

[redacted] I-315   IR 315-5(9)1

```
NE NO/ROAD SEGMENT                 SITE #1 EXISTING PEAK HOUR
                                 -------------------------------
HICLE CLASS                         AUTO     MED TRUCK HVY TRUCK
                                 --------- --------- ---------
VPH)                                 140        7         0
KM/H)                                48.3      48.3      48.3
M)                                             18.3
TE/BARRIER TYPE                                SOFT
(DEGREES)                                     -90
(DEGREES)                                      90
(dBA)                                61.8      73.5       0
+LOG(Ni*Do/Si)(dBA)                  16.4       3.4       0
+LOG((Do/D)^(1+α))(dBA)                       -1.2
+LOG(ψ(α,Θ1,Θ2)/π)(dBA)                       -1.2
(METERS)                              0         0         0
LTA-B(dBA)                            0         0         0
NSTANT(dBA)                         -25       -25       -25
ELTA-S + DELTA-G)(dBA)                0         0         0
q(h)(dBA)                       [illegible] [illegible]   0
q(Σ h)(dBA)                                    53
q(Σ LANES/SEGMENT)                             53
q(Σ SEGMENTS)                                  53

IST   2RUN   3LOAD"   4SAVE"   5CONT 6,"LPT1 7TRON 8TROFF9KEY    0SCREEN

NE NO/ROAD SEGMENT                SITE #1 YEAR 2010 "NO-BUILD"
                                 -------------------------------
HICLE CLASS                         AUTO     MED TRUCK HVY TRUCK
                                 --------- --------- ---------
VPH)                                 266       14         0
KM/H)                                48.3      48.3      48.3
M)                                             18.3
TE/BARRIER TYPE                                SOFT
(DEGREES)                                     -90
(DEGREES)                                      90
(dBA)                                61.8      73.5       0
+LOG(Ni*Do/Si)(dBA)                  19.2       6.4       0
+LOG((Do/D)^(1+α))(dBA)                       -1.3
+LOG(ψ(α,Θ1,Θ2)/π)(dBA)                       -1.2
(METERS)                              0         0         0
LTA-B(dBA)                            0         0         0
NSTANT(dBA)                         -25       -25       -25
ELTA-S + DELTA-G)(dBA)                0         0         0
q(h)(dBA)                            53.5      52.4       0
q(Σ h)(dBA)                                    56
q(Σ LANES/SEGMENT)                             56
q(Σ SEGMENTS)                                  56

IST   2RUN   3LOAD"   4SAVE"   5CONT 6,"LPT1 7TRON 8TROFF9KEY    0SCREEN
```

```
LANE NO/ROAD SEGMENT                  SITE #1 YEAR 2010 "BUILD"
                                    ------------------------------------
VEHICLE CLASS                          AUTO     MED TRUCK HVY TRUCK
                                    ---------- ---------- ----------
N(VPH)                                 528        11         5
S(KM/H)                                48.3       48.3       48.3
D(M)                                              18.3
SITE/BARRIER TYPE                                 SOFT
Φ1(DEGREES)                                      -90
Φ2(DEGREES)                                       90
Lo(dBA)                                61.8       73.5       79.9
10*LOG(Ni*Do/Si)(dBA)                  22.1       5.3        1.9
10*LOG((Do/D)^(1+α))(dBA)                        -1.3
10*LOG(φ(α,Φ1,Φ2)/π)(dBA)                        -1.2
No(METERS)                             0          0          0
DELTA-B(dBA)                           0          0          0
CONSTANT(dBA)                         -25        -25        -25
(DELTA-S + DELTA-G)(dBA)               0          0          0
Leq(h)(dBA)                            56.4       51.3       54.4
Leq(Σ h)(dBA)                                     59
Leq(Σ LANES/SEGMENT)                              59
Leq(Σ SEGMENTS)                                   59
Ok

1LIST   2RUN   3LOAD"   4SAVE"   5CONT 6,"LPT1 7TRON 8TROFF9KEY    0SCREEN

LANE NO/ROAD SEGMENT                  SITE #2 EXISTING PEAK HOUR
                                    ------------------------------------
VEHICLE CLASS                          AUTO     MED TRUCK HVY TRUCK
                                    ---------- ---------- ----------
N(VPH)                                 575        18         11
S(KM/H)                                80.5       80.5       80.5
D(M)                                              122
SITE/BARRIER TYPE                                 SOFT
Φ1(DEGREES)                                      -75
Φ2(DEGREES)                                       75
Lo(dBA)                                70.2       81         85.4
10*LOG(Ni*Do/Si)(dBA)                  20.3       5.3        3.1
10*LOG((Do/D)^(1+α))(dBA)                        -13.7
10*LOG(φ(α,Φ1,Φ2)/π)(dBA)                        -1.5
No(METERS)                             0          0          0
DELTA-B(dBA)                           0          0          0
CONSTANT(dBA)                         -25        -25        -25
(DELTA-S + DELTA-G)(dBA)               0          0          0
Leq(h)(dBA)                            50.3       46.1       48.3
Leq(Σ h)(dBA)                                     53
Leq(Σ LANES/SEGMENT)                              53
Leq(Σ SEGMENTS)                                   57
Ok

1LIST   2RUN   3LOAD"   4SAVE"   5CONT 6,"LPT1 7TRON 8TROFF9KEY    0SCREEN
```

```
ANE NO/ROAD SEGMENT                SITE #2 YEAR 2010 "NO-BUILD"
                                 ---------------------------------
EHICLE CLASS                       AUTO     MED TRUCK HVY TRUCK
                                 --------- --------- ---------
(VPH)                               1028      21         21
(KM/H)                              80.5      80.5       80.5
(M)                                           122
ITE/BARRIER TYPE                              SOFT
1(DEGREES)                                   -75
2(DEGREES)                                    75
o(dBA)                              70.2      81         85.4
0*LOG(Ni*Do/Si)(dBA)                22.3      7.6        5.9
0*LOG((Do/D)^(1+α))(dBA)                     -13.7
0*LOG(φ(α,Φ1,Φ2)/π)(dBA)                     -1.5
b(METERS)                           0         0          0
ELTA-B(dBA)                         0         0          0
ONSTANT(dBA)                       -25       -25        -25
DELTA-S + DELTA-G)(dBA)             0         0          0
eq(h)(dBA)                          52.9      48.5       51.1
eq(Σ h)(dBA)                                  56
eq(Σ LANES/SEGMENT)                           56
eq(Σ SEGMENTS)                                60
k

LIST   2RUN  3LOAD"  4SAVE"  5CONT 6,"LPT1 7TRON 8TROFF9KEY    0SCREEN
```

```
ANE NO/ROAD SEGMENT                SITE #2 YEAR 2010 "BUILD"
                                 ---------------------------------
EHICLE CLASS                       AUTO     MED TRUCK HVY TRUCK
                                 --------- --------- ---------
(VPH)                               1214      37         24
(KM/H)                              80.5      80.5       80.5
(M)                                           122
ITE/BARRIER TYPE                              SOFT
1(DEGREES)                                   -75
2(DEGREES)                                    75
o(dBA)                              70.2      81         85.4
0*LOG(Ni*Do/Si)(dBA)                23.5      8.399999   6.5
0*LOG((Do/D)^(1+α))(dBA)                     -13.7
0*LOG(φ(α,Φ1,Φ2)/π)(dBA)                     -1.5
c(METERS)                           0         0          0
ELTA-B(dBA)                         0         0          0
ONSTANT(dBA)                       -25       -25        -25
DELTA-S + DELTA-G)(dBA)             0         0          0
eq(h)(dBA)                          53.6      49.2       51.7
eq(Σ h)(dBA                                   57
eq(Σ LANES/SEGMENT)                           57
eq(Σ SEGMENTS)                                62
k

LIST   2RUN  3LOAD"  4SAVE"  5CONT 6,"LPT1 7TRON 8TROFF9KEY    0SCREEN
```

```
LANE NO/ROAD SEGMENT           SITE #3 EXISTING PEAK HOUR
                               --------------------------------
VEHICLE CLASS                   AUTO     MED TRUCK HVY TRUCK
                               --------- --------- ---------
N(VPH)                          575       18        11
S(KM/H)                         80.5      80.5      80.5
D(M)                                      33.55
SITE/BARRIER TYPE                         SOFT
Φ1(DEGREES)                              -80
Φ2(DEGREES)                               80
Lo(dBA)                         70.2      81        85.4
10*LOG(Ni*Do/Si)(dBA)           20.3      5.2       3.1
10*LOG((Do/D)^(1+α))(dBA)                -5.2
10*LOG(ø(α,Φ1,Φ2)/π)(dBA)                -1.4
No(METERS)                      0         0         0
DELTA-B(dBA)                    0         0         0
CONSTANT(dBA)                  -25       -25       -25
(DELTA-S + DELTA-G)(dBA)        0         0         0
Leq(h)(dBA)                     58.9      54.7      56.9
Leq(Σ h)(dBA)                             62
Leq(Σ LANES/SEGMENT)                      62
Leq(Σ SEGMENTS)                           63
Ok

1LIST   2RUN   3LOAD"   4SAVE"   5CONT 6,"LPT1 7TRON 8TROFF9KEY    0SCREEN

LANE NO/ROAD SEGMENT          SITE #3 YEAR 2010 "NO-BUILD"
                               --------------------------------
VEHICLE CLASS                   AUTO     MED TRUCK HVY TRUCK
                               --------- --------- ---------
N(VPH)                          1028      31        21
S(KM/H)                         80.5      80.5      80.5
D(M)                                      33.55
SITE/BARRIER TYPE                         SOFT
Φ1(DEGREES)                              -80
Φ2(DEGREES)                               80
Lo(dBA)                         70.2      81        85.4
10*LOG(Ni*Do/Si)(dBA)           22.8      7.6       5.9
10*LOG((Do/D)^(1+α))(dBA)                -5.2
10*LOG(ø(α,Φ1,Φ2)/π)(dBA)                -1.4
No(METERS)                      0         0         0
DELTA-B(dBA)                    0         0         0
CONSTANT(dBA)                  -25       -25       -25
(DELTA-S + DELTA-G)(dBA)        0         0         0
Leq(h)(dBA)                     61.4      57        59.7
Leq(Σ h)(dBA)                             65
Leq(Σ LANES/SEGMENT)                      65
Leq(Σ SEGMENTS)                           65
Ok

1LIST   2RUN   3LOAD"   4SAVE"   5CONT 6,"LPT1 7TRON 8TROFF9KEY    0SCREEN
```

```
 NO/ROAD SEGMENT                SITE #3 YEAR 2010 "BUILD"
                             --------------------------------
HICLE CLASS                    AUTO     MED TRUCK HVY TRUCK
                             --------- --------- ---------
VPH)                            1314      37         24
KM/H)                           80.5      80.5       80.5
M)                                        33.55
TE/BARRIER TYPE                           SOFT
(DEGREES)                                -90
(DEGREES)                                 90
(dBA)                           70.2      81         85.4
*LOG(Ni*Do/Si)(dBA)             23.9      8.399999   6.5
*LOG((Do/D)^(1+α))(dBA)                  -5.2
*LOG(φ(α.Φ1.Φ2)/π)(dBA)                  -1.4
(METERS)                        0         0          0
LTA-B(dBA)                      0         0          0
NSTANT(dBA)                    -25       -25        -25
ELTA-S + DELTA-B)(dBA)          0         0          0
q h)(dBA)                       62.2      57.8       60.3
q(Σ h)(dBA)                               65
q(Σ LANES/SEGMENT)                        65
q(Σ SEGMENTS)                             66

IST    2RUN   3LOAD"   4SAVE"   5CONT 6,"LPT1 7TRON 8TROFF9KEY     0SCREEN

NE NO/ROAD SEGMENT              SITE #4 EXISTING PEAK HOUR
                             --------------------------------
HICLE CLASS                    AUTO     MED TRUCK HVY TRUCK
                             --------- --------- ---------
VPH)                            575       18         11
KM/H)                           80.5      80.5       80.5
M)                                        36.6
TE/BARRIER TYPE                           SOFT
(DEGREES)                                -80
(DEGREES)                                 80
(dBA)                           70.2      81         85.4
*LOG(Ni*Do/Si)(dBA)             20.3      5.3        3.1
*LOG((Do/D)^(1+α))(dBA)                  -5.8
*LOG(φ(α.Φ1.Φ2)/π)(dBA)                  -1.4
(METERS)                        0         0          0
LTA-B(dBA)                      0         0          0
NSTANT(dBA)                    -25       -25        -25
ELTA-S + DELTA-B)(dBA)          0         0          0
eq h)(dBA)                      58.3      54.1       56.3
eq(Σ h)(dBA)                              61
eq(Σ LANES/SEGMENT)                       61
eq(Σ SEGMENTS)                            62

LIST    2RUN   3LOAD"   4SAVE"   5CONT 6,"LPT1 7TRON 8TROFF9KEY     0SCREEN
```

```
LANE NO/ROAD SEGMENT            SITE #4 YEAR 2010 "NO-BUILD"
                             -------------------------------
VEHICLE CLASS                  AUTO    MED TRUCK HVY TRUCK
                             --------- --------- ---------
N(VPH)                          1029      31        21
S(KM/H)                         80.5      80.5      80.5
D(M)                                      36.6
SITE/BARRIER TYPE                         SOFT
Φ1(DEGREES)                              -80
Φ2(DEGREES)                               80
Lo(dBA)                         70.2      81        85.4
10*LOG(Ni*Do/Si)(dBA)           22.8      7.6       5.9
10*LOG((Do/D)^(1+α))(dBA)                -5.8
10*LOG(φ(α,Φ1,Φ2)/π)(dBA)                -1.4
No(METERS)                      0         0         0
DELTA-B(dBA)                    0         0         0
CONSTANT(dBA)                  -25       -25       -25
(DELTA-S + DELTA-G)(dBA)        0         0         0
Leq(h)(dBA)                     60.9      56.5      59.1
Leq(Σ h)(dBA)                             64
Leq(Σ LANES/SEGMENT)                      64
Leq(Σ SEGMENTS)                           65
Ok

1LIST   2RUN   3LOAD"   4SAVE"   5CONT 6,"LPT1 7TRON 8TROFF9KEY    0SCREEN

LANE NO/ROAD SEGMENT            SITE #4 YEAR 2010 "BUILD"
                             -------------------------------
VEHICLE CLASS                  AUTO    MED TRUCK HVY TRUCK
                             --------- --------- ---------
N(VPH)                          81        3         2
S(KM/H)                         48.3      48.3      48.3
D(M)                                      19.825
SITE/BARRIER TYPE                         SOFT
Φ1(DEGREES)                              -65
Φ2(DEGREES)                               90
Lo(dBA)                         61.8      73.5      79.9
10*LOG(Ni*Do/Si)(dBA)           14       -.3       -2.1
10*LOG((Do/D)^(1+α))(dBA)                -1.8
10*LOG(φ(α,Φ1,Φ2)/π)(dBA)                -1.5
No(METERS)                      0         0         0
DELTA-B(dBA)                    0         0         0
CONSTANT(dBA)                  -25       -25       -25
(DELTA-S + DELTA-G)(dBA)        0         0         0
Leq(h)(dBA)                     47.4      44.8      49.5
Leq(Σ h)(dBA)                             52
Leq(Σ LANES/SEGMENT)                      52
Leq(Σ SEGMENTS)                           66
Ok

1LIST   2RUN   3LOAD"   4SAVE"   5CONT 6,"LPT1 7TRON 8TROFF9KEY    0SCREEN
```

```
E   I ROAD SEGMENT                 SITE #5 EXISTING PEAK HOUR
                                  ----------------------------------
ICLE CLASS                          AUTO     MED TRUCK HVY TRUCK
                                  ---------- --------- ---------
PH)                                  573         18         1
M/H)                                 80.5       80.5       80.5
)                                               73.20001
E BARRIER TYPE                                  SOFT
DEGREES)                                       -80
DEGREES)                                        80
dBA)                                 70.2       81         85.4
LOG(Ni*Do/Si)(dBA)                   20.3       5.3       -7.3
LOG((Do/D)^(1+α))(dBA)                         -10.3
LOG φ(α,Φ1,Φ2)/π)(dBA)                         -1.4
METERS)                              0          0          0
TA-R(dBA)                            0          0          0
   NT(dBA)                          -25        -25         25
LTA-S + DELTA-G)(dBA)                0          0          0
 h)(dBA)                             53.8       49.6       41.4
 Σ h)(dBA)                                      55
(Σ LANES/SEGMENT)                               55
(Σ SEGMENTS)                                    56

ST    2RUN   3LOAD"   4SAVE"   5CONT 6,"LPT1 7TRON 8TROFF9KEY      0SCREEN
NE NO/ROAD SEGMENT                 SITE #5 YEAR 2010 "NO-BUILD"
                                  ----------------------------------
HICLE CLASS                         AUTO     MED TRUCK HVY TRUCK
                                  ---------- --------- ---------
VPH)                                 1025        31         21
KM/H)                                80.5       80.5       80.5
M)                                              73.20001
TE/BARRIER TYPE                                 SOFT
(DEGREES)                                      -80
 DEGREES)                                       80
(dBA)                                70.2       81         85.4
LOG(Ni*Do/Si)(dBA)                   22.8       7.6        5.9
LOG((Do/D)^(1+α))(dBA)                         -10.3
LOG φ(α,Φ1,Φ2)/π)(dBA)                         -1.4
(METERS)                             0          0          0
LTA-R(dBA)                           0          0          0
NSTANT(dBA)                         -25        -25        -25
ELTA-S + DELTA-G)(dBA)               0          0          0
q(h)(dBA)                            56.4       51.9       54.6
q(Σ h)(dBA)                                     59
q(Σ LANES/SEGMENT)                              59
q(Σ SEGMENTS)                                   60

IST    2RUN   3LOAD"   4SAVE"   5CONT 6,"LPT1 7TRON 8TROFF9KEY      0SCREEN
```

```
LANE NO/ROAD SEGMENT                 SITE #5 YEAR 2010 "BUILD"
                                   -  -----------...   ------
VEHICLE CLASS                        AUTO     MED TRUCK HVY TRUCK
                                   --------- --------- ---------
N(VPH)                                81         3         3
S(KM/H)                            .  48.3       48.3      48.3
D(M)                                             61
SITE/BARRIER TYPE                                SOFT
Φ1(DEGREES)                                     -50
Φ2(DEGREES)                                      90
Lo(dBA)                               61.8       73.5      79.9
10*LOG(Ni*Do/Si)(dBA)                 14        -.3       -2.1
10*LOG((Do/D)^(1+α))(dBA)                       -9.100001
10*LOG(ø(α,Φ1,Φ2)/π)(dBA)                       -1.9
No(METERS)                            0          0         0
DELTA-B(dBA)                          0          0         0
CONSTANT(dBA)                        -25        -25       -25
(DELTA-S + DELTA-G)(dBA)              0          0         0
Leq(h)(dBA)                           39.7       37.1      41.8
Leq(Σ h)(dBA)                                    45
Leq(Σ LANES/SEGMENT)                             45
Leq(Σ SEGMENTS)                                  62
Ok

1LIST   2RUN   3LOAD"   4SAVE"   5CONT 6,"LPT1 7TRON 8TROFF9KEY    0SCREEN

LANE NO/ROAD SEGMENT                SITE #6 EXISTING PEAK HOUR
                                   -------------------------------
VEHICLE CLASS                        AUTO     MED TRUCK HVY TRUCK
                                   --------- --------- ---------
N(VPH)                                575        18        11
S(KM/H)                               80.5       80.5      80.5
D(M)                                             183
SITE/BARRIER TYPE                                SOFT
Φ1(DEGREES)                                     -90
Φ2(DEGREES)                                      25
Lo(dBA)                               70.2       81        85.4
10*LOG(Ni*Do/Si)(dBA)                 20.3       5.3       3.1
10*LOG((Do/D)^(1+α))(dBA)                       -16.3
10*LOG(ø(α,Φ1,Φ2)/π)(dBA)                       -2.9
No(METERS)                            0          0         0
DELTA-B(dBA)                          0          0         0
CONSTANT(dBA)                        -25        -25       -25
(DELTA-S + DELTA-G)(dBA)              0          0         0
Leq(h)(dBA)                           46.4       42.1      44.3
Leq(Σ h)(dBA)                                    49
Leq(Σ LANES/SEGMENT)                             49
Leq(Σ SEGMENTS)                                  50
Ok

1LIST   2RUN   3LOAD"   4SAVE"   5CONT 6,"LPT1 7TRON 8TROFF9KEY    0SCREEN
```

```
NE NO.ROAD SEGMENT                SITE #6 YEAR 2010 "NO-BUILD
                                 ----------------------------------
HICLE CLASS                        AUTO     MED TRUCK HVY TRUCK
                                 --------- --------- ---------
VPH)                                1029       31         31
KM/H)                               80.5       80.5       80.5
M)                                             133
TE/BARRIER TYPE                                SOFT
(DEGREES)                                     -90
(DEGREES)                                      25
(dBA                                70.2       81         85.4
*LOG(Ni*Do/Si)(dBA)                 22.9       7.6        5.9
*LOG((Do/D)^(1+α))(dBA)                       -16.3
*LOG(ψ(α,Φ1,Φ2)/π)(dBA)                       -2.9
(METERS)                            0          0          0
LTA-S(dBA)                          0          0          0
NSTANT(dBA)                        -25        -25        -25
ELTA-S + DELTA-G)(dBA)              0          0          0
q(h)(dBA)                           48.9       44.5       47.2
q(Σ h)(dBA)                                    52
q(Σ LANES/SEGMENT)                             52
q(Σ SEGMENTS)                                  52


IST   2RUN  3LOAD"  4SAVE"  5CONT 6,"LPT1 7TRON 8TROFF9KEY    0SCREEN

NE NO.ROAD SEGMENT                  SITE #6 YEAR 2010 "BUILD"
                                 ----------------------------------
HICLE CLASS                        AUTO     MED TRUCK HVY TRUCK
                                 --------- --------- ---------
VPH)                                447        14         9
KM/H)                               56.35      56.35      56.35
M)                                             114.375
TE/BARRIER TYPE                                SOFT
(DEGREES)                                     -20
(DEGREES)                                      90
(dBA)                               64.3       75.8       81.6
*LOG(Ni*Do/Si)(dBA)                 20.3       5.7        3.8
*LOG((Do/D)^(1+α))(dBA)                       -13.2
*LOG(ψ(α,Φ1,Φ2)/π)(dBA)                       -3.1
(METERS)                            0          0          0
LTA-S(dBA)                          0          0          0
NSTANT(dBA)                        -25        -25        -25
ELTA-S + DELTA-G)(dBA)              0          0          0
q(h)(dBA)                           43.7       40.1       44
q(Σ h)(dBA)                                    48
q(Σ LANES/SEGMENT)                             48
q(Σ SEGMENTS)                                  54


IST   2RUN  3LOAD"  4SAVE"  5CONT 6,"LPT1 7TRON 8TROFF9KEY    0SCREEN
```

```
LANE NO/ROAD SEGMENT              SITE #7 EXISTING PEAK HOUR
                                 ------------------------------
VEHICLE CLASS                       AUTO     MED TRUCK HVY TRUCK
                                 --------- --------- ---------
N(VPH)                               575        18         11
S(KM/H)                              80.5       80.5       80.5
D(M)                                            85.4
SITE/BARRIER TYPE                               SOFT
Φ1(DEGREES)                                    -90
Φ2(DEGREES)                                     55
Lo(dBA)                              70.2       81         85.4
10*LOG(Ni*Do/Si)(dBA)                20.3       5.3        3.1
10*LOG((Do/D)^(1+α))(dBA)                      -11.3
10*LOG(φ(α,Φ1,Φ2)/π)(dBA)                      -1.8
Db(METERS)                           0          0          0
DELTA-B(dBA)                         0          0          0
CONSTANT(dBA)                       -25        -25        -25
(DELTA-S + DELTA-G)(dBA)             0          0          0
Leq(h)(dBA)                          52.4       48.1       50.4
Leq(Σ h)(dBA)                                   55
Leq(Σ LANES/SEGMENT)                            55
Leq(Σ SEGMENTS)                                 57
Ok

1LIST   2RUN   3LOAD"   4SAVE"   5CONT 6,"LPT1 7TRON 8TROFF9KEY    0SCREEN
```

```
LANE NO/ROAD SEGMENT             SITE #7 YEAR 2010 "NO-BUILD"
                                 ------------------------------
VEHICLE CLASS                       AUTO     MED TRUCK HVY TRUCK
                                 --------- --------- ---------
N(VPH)                               1029       31         21
S(KM/H)                              80.5       80.5       80.5
D(M)                                            85.4
SITE/BARRIER TYPE                               SOFT
Φ1(DEGREES)                                    -90
Φ2(DEGREES)                                     55
Lo(dBA)                              70.2       81         85.4
10*LOG(Ni*Do/Si)(dBA)                22.8       7.6        5.9
10*LOG((Do/D)^(1+α))(dBA)                      -11.3
10*LOG(φ(α,Φ1,Φ2)/π)(dBA)                      -1.8
Db(METERS)                           0          0          0
DELTA-B(dBA)                         0          0          0
CONSTANT(dBA)                       -25        -25        -25
(DELTA-S + DELTA-G)(dBA)             0          0          0
Leq(h)(dBA)                          54.9       50.3       53.2
Leq(Σ h)(dBA)                                   58
Leq(Σ LANES/SEGMENT)                            58
Leq(Σ SEGMENTS)                                 60
Ok

1LIST   2RUN   3LOAD"   4SAVE"   5CONT 6,"LPT1 7TRON 8TROFF9KEY    0SCREEN
```

```
E NO/ROAD SEGMENT                  SITE #7 YEAR 2010 "BUILD"
                                 ------------------------------
HICLE CLASS                        AUTO     MED TRUCK HVY TRUCK
                                 --------- --------- ---------
PH)                                367        11         7
M H)                               56.35      56.35      56.35
)                                             106.75
E BARRIER TYPE                                SOFT
DEGREES)                                     -40
DEGREES)                                      25
dBA)                               64.3       75.8       81.6
LOG(Ni*Do/Si)(dBA)                 19.9       4.7        2.7
LOG((Do/D)^(1+α))(dBA)                       -12.9
LOG(ø(α,Θ1,Θ2)/π)(dBA)                       -4.6
METERS)                            0          0          0
LTA-B(dBA)                         0          0          0
NSTANT(dBA)                       -25        -25        -25
LTA-S + DELTA-G)(dBA)              0          0          0
 h)(dBA)                           41.9       37.1       [illegible]
(Σ n)(dBA)                                    46
(Σ LANES/SEGMENT)                             46
(Σ SEGMENTS)                                  59

ST    2RUN   3LOAD"   4SAVE"   5CONT 6,"LPT1 7TRON 8TROFF9KEY     0SCREEN
E NO/ROAD SEGMENT                  SITE #8 EXISTING PEAK HOUR
                                 ------------------------------
HICLE CLASS                        AUTO     MED TRUCK HVY TRUCK
                                 --------- --------- ---------
PH)                                575        18         11
M/H)                               80.5       80.5       80.5
)                                             41.175
E BARRIER TYPE                                SOFT
DEGREES)                                     -30
DEGREES)                                      80
dBA)                               70.3       81         85.4
LOG(Ni*Do/Si)(dBA)                 20.3       5.3        3.1
LOG((Do/D)^(1+α))(dBA)                       -6.6
LOG(ø(α,Θ1,Θ2)/π)(dBA)                       -1.4
METERS)                            0          0          0
LTA-B(dBA)                         0          0          0
NSTANT(dBA)                       -25        -25        -25
LTA-S + DELTA-G)(dBA)              0          0          0
 h)(dBA)                           57.6       53.3       55.6
(Σ n)(dBA)                                    61
(Σ LANES/SEGMENT)                             61
(Σ SEGMENTS)                                  61

ST    2RUN   3LOAD"   4SAVE"   5CONT 6,"LPT1 7TRON 8TROFF9KEY     0SCREEN
```

```
LANE NO/ROAD SEGMENT                SITE #8 YEAR 2010 "NO-BUILD"
                                   -----------------------------------
VEHICLE CLASS                        AUTO     MED TRUCK HVY TRUCK
                                   ---------- --------- ---------
N(VPH)                                1028       31         21
S(KM/H)                               80.5       80.5       80.5
D(M)                                             41.175
SITE/BARRIER TYPE                                SOFT
Φ1(DEGREES)                                     -80
Φ2(DEGREES)                                      80
Lo(dBA)                               70.2       81         85.4
10*LOG(Ni*Do/Si)(dBA)                 22.8       7.6        5.9
10*LOG((Do/D)^(1+α))(dBA)                       -6.6
10*LOG(ϕ(α,Φ1,Φ2)/π)(dBA)                       -1.4
No(METERS)                            0          0          0
DELTA-B(dBA)                          0          0          0
CONSTANT(dBA)                        -25        -25        -25
(DELTA-S + DELTA-G)(dBA)              0          0          0
Leq(h)(dBA)                           60.1       55.7       58.4
Leq(Σ h)(dBA)                                    63
Leq(Σ LANES/SEGMENT)                             63
Leq(Σ SEGMENTS)                                  63
Ok

1LIST   2RUN   3LOAD"   4SAVE"   5CONT 6,"LPT1 7TRON 8TROFF9KEY    0SCREEN
```

```
LANE NO/ROAD SEGMENT                  SITE #8 YEAR 2010 "BUILD"
                                   -----------------------------------
VEHICLE CLASS                        AUTO     MED TRUCK HVY TRUCK
                                   ---------- --------- ---------
N(VPH)                                1288       38         25
S(KM/H)                               80.5       80.5       80.5
D(M)                                             41.175
SITE/BARRIER TYPE                                SOFT
Φ1(DEGREES)                                     -80
Φ2(DEGREES)                                      80
Lo(dBA)                               70.2       81         85.4
10*LOG(Ni*Do/Si)(dBA)                 23.8       8.5        6.7
10*LOG((Do/D)^(1+α))(dBA)                       -6.6
10*LOG(ϕ(α,Φ1,Φ2)/π)(dBA)                       -1.4
No(METERS)                            0          0          0
DELTA-B(dBA)                          0          0          0
CONSTANT(dBA)                        -25        -25        -25
(DELTA-S + DELTA-G)(dBA)              0          0          0
Leq(h)(dBA)                           61.1       56.6       59.1
Leq(Σ h)(dBA)                                    64
Leq(Σ LANES/SEGMENT)                             64
Leq(Σ SEGMENTS)                                  64
Ok

1LIST   2RUN   3LOAD"   4SAVE"   5CONT 6,"LPT1 7TRON 8TROFF9KEY    0SCREEN
```

Noise Level Leq(h) = ________ dBA
= ________ dBA
= ________ dBA

Noise Analysis Input Data (BASICA)

Date 5-7-91

Project No. IR 315-5(9)1

By ________

Project Name I-315 [illegible] Interchange

No. of Roadway Segments (1-6) 1

Year(P/D) 1989/2010

No. of Lanes per Segment (1-6) 1

Receptor # 1

Lane "Name/Road Segment" (30 char. max.)
1) Site #1 Existing Peak Hour
2) " Year 2010 "No-Build"
3) " Year 2010 "Build"
4) ________

PHI(1), PHI(2), Alpha, DELTA-S=

| | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| Ø1(-90 to 89) = | -90 | -90 | -90 | |
| Ø2(-89 to 90) = | 90 | 90 | 90 | |
| ALPHA(0 or .5) = | .5 | .5 | .5 | |
| DELTA-S (Atten. 0 to-10)= | 0 | 0 | 0 | |

(N)O BARRIER, (W)ALL, (B)ERM

Barrier Height (0-30) = –
Receptor Height (0-30) = ________
Barr.- Recep. Dist.(20-300)= ________

SA,SM,SH,NA,NM,NH,DELTA-G,*D =

| | | Existing<br>(1) | "NB<br>(2) | BD"<br>(3) | (4) |
|---|---|---|---|---|---|
| (30-65 mph) | SA= | 30 | 30 | 30 | |
| " | SM= | 30 | 30 | 30 | |
| " | SH= | 30 | 30 | 30 | |
| (1-10,000) | NA= | 140 | 266 | 528 | |
| " | NM= | 7 | 14 | 11 | |
| " | NH= | 0 | 0 | 5 | |
| DELTA-G(0 to+5)= | | 0 | 0 | 0 | |
| *D (25-1000) = | | 60 | 60 | 60 | |

*Recp. to Road Dist.

Noise Level Leq(h) = ________ dBA
= ________ dBA
= ________ dBA

ENV/Noise F002:GJS

Noise Analysis Input Data (BASICA)

Date 5-7-91

Project No. IR 315-5(9)1

By ________

Project Name I-315 [illegible] Interchange

No. of Roadway Segments (1-6) 2-2-3

Year(P/D) 1989/2010

No. of Lanes per Segment (1-6) 1

Receptor # 2

Lane "Name/Road Segment" (30 char. max.)
1) Site #2 Existing Peak Hour
2) " Year 2010 "No-Build"
3) " Year 2010 "Build"
4) ________

PHI(1), PHI(2), Alpha, DELTA-S=

| | 14th (1) | 315 | 14th (2) | 315 | 14th SW (3) | R-"E") (4) | I-315(WB) |
|---|---|---|---|---|---|---|---|
| Ø1(-90 to 89) = | -80 | -75 | -80 | -75 | -80 | -20 | -75 |
| Ø2(-89 to 90) = | +90 | +75 | +90 | +75 | +90 | +30 | +75 |
| ALPHA(0 or .5) = | .5 | .5 | .5 | .5 | .5 | .5 | .5 |
| DELTA-S (Atten. 0 to-10)= | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

(N)O BARRIER, (W)ALL, (B)ERM

Barrier Height (0-30) = ________

Receptor Height (0-30) = ________

Barr.- Recep. Dist.(20-300)= ________

SA,SM,SH,NA,NM,NH,DELTA-G,*D =

| | | Existing (1) 14th | 315 | "NB" (2) 14th | 315 | "Build" 14th (3) | "E" (4) | 315 |
|---|---|---|---|---|---|---|---|---|
| (30-65 mph) | SA= | 30 | 50 | 30 | 50 | 30 | 30 | 50 |
| " | SM= | 30 | 50 | 30 | 50 | 30 | 30 | 50 |
| " | SH= | 30 | 50 | 30 | 50 | 30 | 30 | 50 |
| (1-10,000) | NA= | 140 | 575 | 266 | 1029 | 485 | 547 | 1214 |
| " | NM= | 7 | 18 | 14 | 31 | 10 | 17 | 37 |
| " | NH= | 0 | 11 | 0 | 21 | 5 | 11 | 24 |
| DELTA-G(0 to+5)= | | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| *D (25-1000) = | | 50 | 400 | 50 | 400 | 50 | 100 | 400 |

*Recp. to Road Dist.

Noise Level Leq(h) = ________dBA
= ________dBA
= ________dBA

ENV/Noise F002:GJS

Noise Analysis Input Data (BASICA)

Date 5-7-91

Project No. IR 315-5(9)1

By ________

Project Name I-315 Interchange

No. of Roadway Segments (1-6) 2-2-2

Year(P/D) 1990/2010

No. of Lanes per Segment (1-6) 1

Receptor # 3

Lane "Name/Road Segment" (30 char. max.)
1) Site #3 Existing Peak Hour
2) " Year 2010 "No-Build"
3) " Year 2010 "Build"
4) ________

PHI(1), PHI(2), Alpha, DELTA-S=

| | 14th<br>(1) | 315<br>(2) | 14th<br>(3) | 315<br>(4) | 14th | 315 |
|---|---|---|---|---|---|---|
| Ø1(-90 to 89) = | -65 | -80 | -65 | -80 | -65 | -80 |
| Ø2(-89 to 90) = | +90 | +80 | +90 | +80 | +90 | +80 |
| ALPHA(0 or .5) = | .5 | .5 | .5 | .5 | .5 | .5 |
| DELTA-S (Atten. 0 to-10)= | 0 | 0 | 0 | 0 | 0 | 0 |

(N)O BARRIER,(W)ALL, (B)ERM

Barrier Height (0-30) = /

Receptor Height (0-30) = ________

Barr.- Recep. Dist.(20-300)= ________

SA,SM,SH,NA,NM,NH,DELTA-G,*D =

| | | 14th<br>(1) | 315<br>(2) | 14th<br>(3) | 315<br>(4) | 14th | 315 |
|---|---|---|---|---|---|---|---|
| (30-65 mph) | SA= | 30 | 50 | 30 | 50 | 30 | 50 |
| " | SM= | 30 | 50 | 30 | 50 | 30 | 50 |
| " | SH= | 30 | 50 | 30 | 50 | 30 | 50 |
| (1-10,000) | NA= | 140 | 575 | 266 | 1028 | 495 | 1214 |
| " | NM= | 7 | 13 | 14 | 31 | 10 | 37 |
| " | NH= | 0 | 11 | 0 | 21 | 5 | 24 |
| | DELTA-G(0 to+5)= | 0 | 0 | 0 | 0 | 0 | 0 |
| | *D (25-1000) = | 50 | 110 | 50 | 110 | 50 | 110 |

*Recp. to Road Dist

Noise Level Leq(h) = ________dBA
= ________dBA
= ________dBA

ENV/Noise F002:GJS

Noise Analysis Input Data (BASICA)

Date 5-7-91

Project No. IR 315-5(9)1

By ________

Project Name I 315 [illegible] interchange

No. of Roadway Segments (1-6) 2-2-3

Year(P/D) 1989/2010

No. of Lanes per Segment (1-6) 1

Receptor # 4

Lane "Name/Road Segment" (30 char. max.)

1) Site #4 Existing Peak-Hour
2) " Year 2010 "No-Build"
3) " Year 2010 "Build"
4) ________

PHI(1), PHI(2), Alpha, DELTA-S=

| | (1) 14th | 315 | (2) 14th | (3) 315 | (4) 14th | 315 | [illegible] A |
|---|---|---|---|---|---|---|---|
| Ø1(-90 to 89) = | -65 | -80 | -65 | -80 | -65 | -80 | -65 |
| Ø2(-89 to 90) = | 90 | 80 | 90 | 80 | 90 | 80 | 90 |
| ALPHA(0 or .5) = | .5 | .5 | .5 | .5 | .5 | .5 | .5 |
| DELTA-S (Atten. 0 to-10)= | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

(N)O BARRIER, (W)ALL, (B)ERM

Barrier Height (0-30) = —

Receptor Height (0-30) = ________

Barr.- Recep. Dist.(20-300)= ________

SA,SM,SH,NA,NM,NH,DELTA-G,*D =

| | (1) 14th | 315 | (2) 14th | (3) 315 | (4) 14th | 315 | Ramp "A" |
|---|---|---|---|---|---|---|---|
| (30-65 mph) SA= | 35 | 50 | 35 | 50 | 35 | 50 | 30 |
| " SM= | 35 | 50 | 35 | 50 | 35 | 50 | 30 |
| " SH= | 35 | 50 | 35 | 50 | 35 | 50 | 30 |
| (1-10,000) NA= | 146 | 575 | 275 | 1028 | 485 | 1288 | 81 |
| " NM= | 8 | 18 | 15 | 31 | 10 | 38 | 3 |
| " NH= | 0 | 11 | 0 | 21 | 5 | 25 | 2 |
| DELTA-G(0 to+5)= | 0 | 0 | 0 | 0 | 0 | 0 | |
| *D (25-1000) = | 70 | 120 | 70 | 120 | 70 | 120 | 65 |

*Recp D to Road Dist.

Noise Level Leq(h) = ________dBA
= ________dBA
= ________dBA

ENV/Noise F002:GJS

Noise Analysis Input Data (BASICA)

Date 5-7-91

Project No. IR 315-5(9)1

By ________

Project Name I 315 Interchange

No. of Roadway Segments (1-6) 2-2-3

Year(P/D) 1990/2010

No. of Lanes per Segment (1-6) 1

Receptor # 5

Lane "Name/Road Segment" (30 char. max.)
1) Site #5 Existing Peak Hour
2) " Year 2010 "No-Build"
3) " Year 2010 "Build"
4) ________

PHI(1), PHI(2), Alpha, DELTA-S=

| | 14th (1) | 315 | 14th (2) | 315 (3) | 14th (4) | 315 | Ramp A |
|---|---|---|---|---|---|---|---|
| Ø1(-90 to 89) = | -65 | -80 | -65 | -80 | -65 | -80 | -50 |
| Ø2(-89 to 90) = | 90 | 80 | 90 | 80 | 90 | 80 | 90 |
| ALPHA(0 or .5) = | .5 | .5 | .5 | .5 | .5 | .5 | .5 |
| DELTA-S (Atten. 0 to-10)= | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

(N)O BARRIER,(W)ALL, (B)ERM

Barrier Height (0-30) = /

Receptor Height (0-30) = ________

Barr.- Recep. Dist.(20-300)= ________

SA,SM,SH,NA,NM,NH,DELTA-G,*D =

| | | 14th (1) | 315 | 14th (2) | 315 (3) | 14th (4) | 315 | Ramp A |
|---|---|---|---|---|---|---|---|---|
| (30-65 mph) | SA= | 35 | 50 | 35 | 50 | 35 | 50 | 30 |
| " | SM= | 35 | 50 | 35 | 50 | 35 | 50 | 30 |
| " | SH= | 35 | 50 | 35 | 50 | 35 | 50 | 30 |
| (1-10,000) | NA= | 146 | 575 | 275 | 1028 | 485 | 1298 | 91 |
| " | NM= | 8 | 18 | 15 | 31 | 10 | 38 | 3 |
| " | NH= | 0 | 11 | 0 | 21 | 5 | 25 | 2 |
| DELTA-G(0 to+5)= | | 0 | 0 | 0 | 0 | 0 | 0 | *Recp. to Road Dist. |
| *D (25-1000) = | | 135 | 240 | 135 | 240 | 135 | 240 | 200 |

Noise Level Leq(h) = ________dBA
= ________dBA
= ________dBA

ENV/Noise F002:GJ

Noise Analysis Input Data (BASICA)

Date 5-7-91

Project No. IR 315-5(9)1

By ________

Project Name I-315 Spur Interchange

No. of Roadway Segments (1-6) 2-2-3

Year(P/D) 1989/2010

No. of Lanes per Segment (1-6) 1

Receptor # 6

Lane "Name/Road Segment" (30 char. max.)
1) Site #6 Existing Peak Hour
2) " Year 2010 "No-Build"
3) " Year 2010 "Build"
4) ________

PHI(1), PHI(2), Alpha, DELTA-S=

| | 18th (1) | 315 | 18th (2) | 315 (3) | 18th (4) | 315 | "B" |
|---|---|---|---|---|---|---|---|
| Ø1(-90 to 89) = | -90 | -90 | -90 | -90 | -10 | -90 | -20 |
| Ø2(-89 to 90) = | +10 | +25 | +10 | +25 | +10 | +25 | +70 |
| ALPHA(0 or .5) = | .5 | .5 | .5 | .5 | .5 | .5 | .5 |
| DELTA-S (Atten. 0 to-10)= | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

(N)O BARRIER, (W)ALL, (B)ERM

Barrier Height (0-30) = ______

Receptor Height (0-30) = ______

Barr.- Recep. Dist.(20-300)= ______

SA, SM, SH, NA, NM, NH, DELTA-G, *D =

| | 18th (1) | 315 | 18th (2) | 315 (3) | 18th (4) | 315 | "B" |
|---|---|---|---|---|---|---|---|
| (30-65 mph) SA= | 30 | 50 | 30 | 50 | 30 | 50 | 35 |
| " SM= | 30 | 50 | 30 | 50 | 30 | 50 | 35 |
| " SH= | 30 | 50 | 30 | 50 | 30 | 50 | 35 |
| (1-10,000) NA= | 184 | 575 | 407 | 1029 | 60 | 1298 | 447 |
| " NM= | 6 | 18 | 13 | 31 | 0 | 38 | 14 |
| " NH= | 0 | 11 | 0 | 21 | 0 | 25 | 9 |
| DELTA-G(0 to+5)= | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| *D (25-1000) = | 350 | 600 | 350 | 600 | 350 | 600 | 375 |

*Recp. to Road Dist.

Noise Level Leq(h) = ________ dBA
= ________ dBA
= ________ dBA

Noise Analysis Input Data (BASICA)

Date 5-7-91

Project No. IR 315-5(9)1

By ________

Project Name I-315 Interchange

No. of Roadway Segments (1-6) 2-2-3

Year(P/D) 1989/2010

No. of Lanes per Segment (1-6) 1

Receptor # 7

Lane "Name/Road Segment" (30 char. max.)
1) Site #7 Existing Peak Hour
2) " Year 2010 "No Build"
3) " Year 2010 "Build"
4) ________

PHI(1), PHI(2), Alpha, DELTA-S=

| | 18th (1) | 315 | 18th (2) | 315 (3) | 18th (4) | 315 | "C" |
|---|---|---|---|---|---|---|---|
| Ø1(-90 to 89) = | 0 | -90 | 0 | -90 | 0 | -90 | -40 |
| Ø2(-89 to 90) = | +90 | +55 | +90 | +55 | +90 | +55 | +25 |
| ALPHA(0 or .5) = | .5 | .5 | .5 | .5 | .5 | .5 | .5 |
| DELTA-S (Atten. 0 to-10)= | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

(N)O BARRIER, (W)ALL, (B)ERM

Barrier Height (0-30) = ________

Receptor Height (0-30) = ________

Barr.- Recep. Dist. (20-300)= ________

SA, SM, SH, NA, NM, NH, DELTA-G, *D =

| | | 18th (1) | 315 | 18th (2) | 315 (3) | 18th (4) | 315 | "C" |
|---|---|---|---|---|---|---|---|---|
| (30-65 mph) | SA= | 30 | 50 | 30 | 50 | 30 | 50 | 35 |
| " | SM= | 30 | 50 | 30 | 50 | 30 | 50 | 35 |
| " | SH= | 30 | 50 | 30 | 50 | 30 | 50 | 35 |
| (1-10,000) | NA= | 134 | 575 | 407 | 1028 | 60 | 1288 | 367 |
| " | NM= | 6 | 18 | 13 | 31 | 0 | 38 | 11 |
| " | NH= | 0 | 11 | 0 | 21 | 0 | 25 | 7 |
| DELTA-G(0 to+5)= | | 0 | 0 | 0 | 0 | 0 | 0 | |
| *D (25-1000) = | | 50 | 280 | 50 | 280 | 50 | 280 | 350 |

*Recp. to Road Dist.

Noise Level Leq(h) = ________ dBA
= ________ dBA
= ________ dBA

ENV/Noise F002:GJ

Noise Analysis Input Data (BASICA)

Date 5-7-91

Project No. IR 315-5(9)1

By ________

Project Name I-315 Spur Interchange

No. of Roadway Segments (1-6) 1 ea

Year(P/D) 1989/2010

No. of Lanes per Segment (1-6) 1 ea

Receptor # 8

Lane "Name/Road Segment" (30 char. max.)
1) Site #8 Existing Peak Hour
2) " Year 2010 "No-Build"
3) " Year 2010 "Build"
4) ________

PHI(1), PHI(2), Alpha, DELTA-S=

| | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| Ø1(-90 to 89) = | -80 | -80 | -80 | |
| Ø2(-89 to 90) = | +80 | +80 | +80 | |
| ALPHA(0 or .5) = | .5 | .5 | .5 | |
| DELTA-S (Atten. 0 to-10)= | 0 | 0 | 0 | |

(N)O BARRIER, (W)ALL, (B)ERM

Barrier Height (0-30) = ______

Receptor Height (0-30) = ______

Barr.- Recep. Dist.(20-300)= ______

SA,SM,SH,NA,NM,NH,DELTA-G,*D =

| | Peak Hour<br>(1) | "N-B"<br>(2) | "Build"<br>(3) | (4) |
|---|---|---|---|---|
| (30-65 mph) SA= | 50 | 50 | 50 | |
| " SM= | 50 | 50 | 50 | |
| " SH= | 50 | 50 | 50 | |
| (1-10,000) NA= | 575 | 1028 | 1283 | |
| " NM= | 18 | 31 | 38 | |
| " NH= | 11 | 21 | 25 | |
| DELTA-G(0 to+5)= | 0 | 0 | 0 | |
| *D (25-1000) = | 135 | 135 | 135 | |

*Recp. to Road Dist.

14th St. SW - North of 16th Ave SW.

Noise Analysis Traffic Data

Project No. IR 315-5(9)1

Date 5-7-91

Project Name I-315 interchange

By

ing

1989 (Present Year) ADT = 1474

Percent Trucks = 5% (MT only)

Peak Hour= 147 (10%)

Autos = 140

Speed (mph) = 30

Med. Trucks = 7

Heavy Trucks = 0

---

-Build.

2010 (Design Year) ADT = 2800

Percent Trucks = 5% (MT only)

DHV = 280 (10%)

Autos = 266

Speed (mph) = 30

Med. Trucks = 14

Heavy Trucks = 0

---

uild"

2010 (Design Year ADT = 4530

Percent Trucks = 2% MT
1% HT

DHV = 544 (12%)

Autos = 528

Med. Trucks = 11

Speed = 30

Heavy Trucks = 5

ENV/Noise F001:GJS

14th St. SW – North of I-315 / South of 16th Ave SW

Existing & Design Year
"Build" &
"No-Build"

Noise Analysis Traffic Data

Project No. IR 315-5(9)1

Date 5-7-91

Project Name I-315 Interchange

By

Existing

1989 (Present Year) ADT = 1474

Percent Trucks = 5% (M.T. only)

Peak Hour= 147 (10%)

Autos = 140

Speed (mph) = 30 (North of I-315)

Med. Trucks = 7

Heavy Trucks = 0

---

No-Build

2010 (Design Year) ADT = 2800

Percent Trucks = 5% (M.T. only)

DHV = 280 (10%)

Autos = 266

Speed (mph) = 30 (North of I 315)

Med. Trucks = 14

Heavy Trucks = 0

---

uild

2010 (Design Year) ADT = 4165

Percent Trucks = 2% med. T
1% H.T.

DHV = 500 (12%)

Speed = 30 (North of I 315

Autos = 485

Med Trucks 10

Heavy Trucks 5

ENV/Noise F001:GJS

14th St SW - South of I-315

Noise Analysis Traffic Data

Project No. IR 315-5(9)1 Date 5-7-91

Project Name Interchange By

ting/

1989 (Present Year) ADT = 1537 Percent Trucks = 5% (MT on

Peak Hour= 154 (10%)

Autos = 146 Speed (mph) = 35

Med. Trucks = 8

Heavy Trucks = 0

---

uild/

2010 (Design Year) ADT = 2900 Percent Trucks = 5% (MT only)

DHV = 290 (10%)

Autos = 275 Speed (mph) = 35

Med. Trucks = 15

Heavy Trucks = 0

---

2010 (Design Year) ADT = 4165 Percent Trucks = 2% med. T 1% Heavy T

DHV = 500 (12%)

uild/

Autos = 485 Speed = 35 (AVG 50 on 315)

Med. Trucks = 10

Heavy Trucks = 5

ENV/Noise F001:GJS

# 18th Ave. SW

## Noise Analysis Traffic Data

Project No. IR 315-5(9) 1 Date 5-7-91

Project Name I-315 Interchange By

Existing

1989 (Present Year) ADT = 1593 Percent Trucks = 3% (med. o

Peak Hour= 190 (10%)

Autos = 184 Speed (mph) = 30

Med. Trucks = 6

Heavy Trucks = 0

---

No-Build

2010 (Design Year) ADT = 4200 Percent Trucks = 3% (med. only

DHV = 420 (10%)

Autos = 407 Speed (mph) = 30

Med. Trucks = 13

Heavy Trucks = 0

---

Build

2010 Design Year ADT = 600 Percent Trucks = 0%

DHV = 60 (10%)

Autos = 60 Speed = 30

Med. Trucks = 0

Heavy Trucks = 0

ENV/Noise F001:GJS

RAMP B & F (A+C)
E (D+F)

Noise Analysis Traffic Data

Project No. IR 315-5(9)1

Date 5-7-91

Project Name I-315 Sun Interchange

By

2010 (~~Present~~ Design Year) ADT = 3920

Percent Trucks = 2.9% MT
1.9% HT

Peak Hour= 470 (12%)

Autos = 447

Speed (mph) = 35

Med. Trucks = 14

Heavy Trucks = 9

(A+C)

---

2010 (Design Year) ADT = 4795

Percent Trucks = 2.9% MT
1.9% HT

DHV = 575 (12%)

Autos = 547

Speed (mph) = 35

Med. Trucks = 17

Heavy Trucks = 11

(D+F)

ENV/Noise F001:GJS

RAMP C - Design Year
" D - " "
" A - " "

Noise Analysis Traffic Data

Project No. IR 315-5(9)1

Date 5-7-91

Project Name I-315 Spur Interchange

By

---

"A"

2010 (~~Present~~ Design Year) ADT = 709

Percent Trucks = 2.9 % MT 1.9 % HT

Peak Hour = 85 (12%)

Autos = 81

Speed (mph) = 35

Med. Trucks = 3

Heavy Trucks = 2

---

"C"

2010 (Design Year) ADT = 3211

Percent Trucks = 2.9 % MT 1.9 % HT

DHV = 385 (12%)

Autos = 367

Speed (mph) = 35

Med. Trucks = 11

Heavy Trucks = 7

---

"D"

2010 (Design Year) ADT = 795

Percent Trucks = 2.9 % MT 1.9 % HT

DHV = 95 (12%)

Autos = 90

Speed = 35

Med. Trucks = 3

Heavy Trucks = 2

ENV/Noise F001:GJS

I-315 Spur (10th Ave. So.)
East Bound

Noise Analysis Traffic Data

Project No. IR 315-5(9)1 Date 5-7-91

Project Name I-315 interchange By ______

xisting /

1989 (Present Year) ADT = 5030 (E.B.) Percent Trucks = 2.9% M.T. 1.9% H.T.

Peak Hour= 604 (12%)

Autos = 575 Speed (mph) = 60

Med. Trucks = 18

Heavy Trucks = 11

---

o-Build /

2010 (Design Year) ADT = 9000 (E.B.) Percent Trucks = 2.9% M.T. 1.9% H.T.

DHV = 1080 (12%)

Autos = 1028 Speed (mph) = 60

Med. Trucks = 31

Heavy Trucks = 21

---

2010 (Design Year) ADT = 10845 (E.B. Percent Trucks = 2.9% MT 1.9% HT

DHV = 1301 12%

uild /

Autos 1238 Speed = 60

M. Trucks 38

H. Trucks 25

ENV/Noise F001:GJS

I-315 Spur (10th Ave So)
West Bound

Noise Analysis Traffic Data

Project No. IR 315-5(9)1

Date 5-7-91

Project Name I-315 [illegible]

By

Existing

1989 (Present Year) ADT = 5030 (W.B.)

Percent Trucks = 2.9% MT 1.9% HT

Peak Hour= 604 (12%)

Autos = 575

Speed (mph) = ~~60~~ 50

Med. Trucks = 18

Heavy Trucks = 11

---

No Build

2010 (Design Year) ADT = 9000 (W.B.)

Percent Trucks = 2.9% MT 1.9% HT

DHV = 1080 (12%)

Autos = 1028

Speed (mph) = ~~60~~ 50

Med. Trucks = 31

Heavy Trucks = 21

---

Build

2010 (Design Year) ADT = 10624 (W.B.)

Percent Trucks = 2.9% 1.9%

DHV = 1275 12%

Autos = 1214

Speed = ~~60~~ 50

Med. Trucks = 37

Heavy Trucks = 24

ENV/Noise F001:GJS

I-315

① small trailer park (remove?) AIRWAY MOTEL will Remain

② Treasure State Drive Development

③ Single Residence

④ Single Residence

⑤ single Residence

single (garage
⑥ House; Remove?

A. Aircraft "flybys" ambient (49)

Heavy
B. Truck on 10th 54dBA

C. Semi: 61-63 passby
west bound traffic shielded
only outside EB in view
(AIRCRAFT ABOUT SAME as semi)

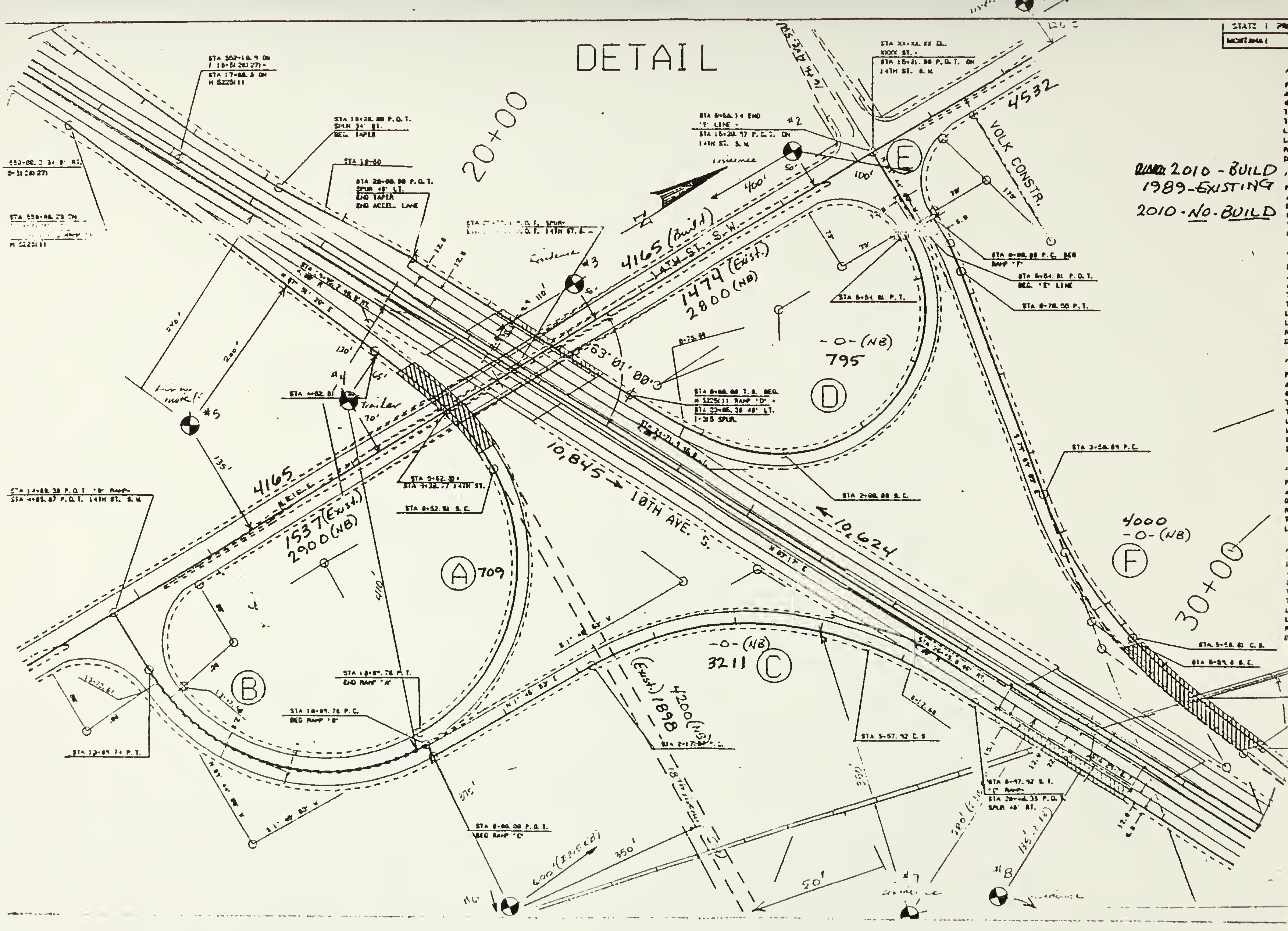
speed limit on 14th = 30 mph north of 10th overpass
6 single residences on west side of 14th
5 " " on east side of 14th (3 will be removed)

TREASURE STATE DRIVE: NUMEROUS DAILY AIRCRAFT "TOUCH & GO" @ ANG

No sheilding from RR berm - (minor for auto's on on/off ramp)

Line of sight view 4 lanes of semi's (exhaust on West Bound)

THRU TRAFFIC on 18th AVE SW will be eliminated


DETAIL
2010 - BUILD
1989-EXISTING
2010-NO-BUILD
20+00
30+00
4532
VOLK CONSTR.
4165 (Build)
14TH ST. S.W.
1474 (Exist.)
2800 (NB)
-0-(NB)
795
63°01'00"
10,845 →
10TH AVE. S.
← 10,624
4000
-0-(NB)
4165
1537 (Exist.)
2900 (NB)
709
-0-(NB)
3211
4200 (NB)
(Exist.) 1898
18th Avenue
A
B
C
D
E
F
#2
#3
#4
#5
#7
#8
Trailer
400'
100'
50'
110'
120'
65'
70'
135'
200'
240'
410'
350'
50'
STA 10+28.88 P.O.T. SPUR 34' RT. BEG. TAPER
STA 18+60
STA 20+00.00 P.O.T. SPUR 48' LT. END TAPER END ACCEL. LANE
STA 6+58.14 END "F" LINE
STA 15+20.97 P.O.T. ON 14TH ST. S.W.
STA 0+00.00 P.C. BEG RAMP "F"
STA 6+54.81 P.O.T. BEG. "F" LINE
STA 0+78.58 P.T.
STA 6+54.81 P.T.
STA 2+00.00 S.C.
STA 3+50.89 P.C.
STA 5+58.81 C.S.
STA 6+59.0 S.C.
STA 5-57.92 C.S.
STA 6+47.92 S.T.
STA 5+62.50
STA 8+52.81 S.C.
STA 10+09.76 P.T. END RAMP "A"
STA 10+09.76 P.C. BEG RAMP "B"
STA 8+00.00 P.O.T. BEG RAMP "C"
STA 13+09.74 P.T.
STA 4+62.81

# APPENDIX B

# BIOLOGICAL RESOURCES REPORT

Montana Department of Transportation
# BIOLOGICAL RESOURCES REPORT

## Great Falls, I-315/14th St.Interchange
Project IR 315-5 (9) 1
Control Number 0349

**Prepared by:**

Charles van Hook CvH
MDT Biologist
October 20, 1992

## EXECUTIVE SUMMARY

This is a large construction project which was designed in response to a proposal to construct a large shopping center on the south side of Great Falls. The project involves the addition of several ramps to a current right-of-way which enters the city from I 15. At this date, the shopping center proposal is inactive. The urban nature of this project and the fact that it is not associated with a river corridor vastly reduces the potential for environmental damage or threats to the well being of endangered species which may occur in the region. This opinion is supported by comments solicited from the fish and wildlife agencies. The biological issues here will be evaluated as urban impacts, primarily having to do with the nature of the approach to reclamation. There are opportunities to practice restraint through the preservation of large trees and surrounding topsoil in the construction zone; this effort would result in a much improved reclamation product. There may also be an opportunity to reclaim the south side of the project as a biologically stable and productive xeric northern plains landscape which will require minimal long term maintenance.

## INTRODUCTION

Under Section 7 of the Endangered Species Act, as amended, activities conducted, sponsored, or funded by federal agencies must be reviewed for their effects on species federally listed or proposed for listing as threatened or endangered.

The Montana Department of Transportation (MDT) and the Federal Highways Administration (FHWA) are jointly proposing the Great Falls, I-315/14th St. Interchange project on the west side of the city of Great Falls in Cascade County, Montana.

### Project and General Area Description

The following information is summarized from the April 8, 1991 REVISED SCOPE OF WORK REPORT.

This project will allow traffic flow from 14th Street Southwest to the I-315 spur and visa versa. This will be made possible through the construction of a partial cloverleaf on both the north and the south side of the I-315 spur. Also, in conjunction with the partial clover leaf, an on ramp will be constructed on the north side and an off ramp will be constructed on the south side of the I-315 spur.

After these facilities are constructed and in use, three streets in the vicinity will be closed in order to facilitate planned traffic flows. The manner in which this is done, particularly at the junction of Lower Sun River Road and 6th St. SW may offer additional opportunities for urban impact mitigation efforts.

The project area is located within a northern grassland (Payne 1973) environment of rolling hills. The majority of the lands surrounding the highway to the north have been converted into urban homesites and small business locations. These areas have received much landscaping attention over the years and have developed valuable topsoil and vegetation resources. On the south side of the project the landscape remains primarily dry-land farming with one or two residences, an abandoned Fish and Game office, and to the west, a small motel which is still operating. The motel site contains a number of impressive trees.

## Study Methods

### Agency Consultation and Literature Review

Lists of threatened and endangered species potentially occurring in the vicinity of this project previously requested from the U.S. Fish and Wildlife Service were reviewed to ascertain which such species may occur in the project area. Written inquiries were also made with the Montana Heritage Program and the Montana Department of Fish, Wildlife & Parks.

### Field Survey

On August 5th and 6th, 1992, the project site was inspected in detail. On the north side of the highway right-of-way coming into Great Falls from I-15, the area is dedicated to urban residences, (see photo #1). This area offers very little in the way of any kind of wildlife habitat. The area to the south of the right-of-way remains as partially open land which may have some attraction to deer, raptors and small mammals, however, access to and from this area as well as sparce cover renders this very poor habitat. This area is dedicated to limited hay production east of 14th Street around the previous Fish And Game office, (see photo #2) . The south side area west of 14th Street is open grazing land for about ¼ mile where there begins another urban subdivision.

The nearest habitat which would be expected to be attractive to the avian members of the endangered species list is located along the Sun River which comes within about 1200 feet of the construction disturbance. The entire south bank of the Sun River in the vicinity of the project was inspected for signs of the listed species or their nesting activities. No sightings were made. There are permanent homesites, trailer parks and small businesses between the proposed construction area and the Sun River riparian zone.

Photo 1: Looking west along the I 315 Spur into the trailer court north of the highway. These urban homesites have topsoil and large trees, both of which have value as reclamation resources. Tree species at this location which may be salvaged include cottonwood, blue spruce, Russian olive, box elder, juniper and lilac. Photo 9/82 - CvH

Photo 2: Looking north along 14th street. The old Fish & Game facility and surrounding hayfield are seen with I 315 in background. A partial clover leaf will encompass this field. Restoration of avian habitat may be accomplished with a reclamation plan involving a xeric northern plains selection of native vegetation. Intermittent water may be available from the concrete-lined ditch which descends along the south side of the I 315 right-of-way. Photo 9/92 - CvH.

This project proposal includes the eventual closing of the intersection where the Lower Sun River Road enters 6th Street SW. This location will be a turnaround at the east end of the Lower Sun River Road. This area was inspected and was found to have much potential as a scenic riverside park (see photo 3).

Photo 3: Looking upstream at the Sun River from the 6th Avenue Bridge. Current roadway in background, (see car on road). This area designated as the turnaround at the end of the Lower Sun River Road. Additional right-of-way may allow restoration of river bank and leaning tree to provide a very visible and attractive park-like space as part of the turnaround construction. Photo 9/92 - CvH.

## STUDY RESULTS

### Terrestrial Resources

#### General Description

The City of Great Falls has grown around the confluence of the Missouri and the Sun Rivers. These river valleys offer a lower elevation, more sheltered environment than the surrounding high plains and buttes. The higher, surrounding environment offers prairie grasslands dominated by bunchgrasses and shrubs, while the valley provides a mixture of riparian and grasslands. This proposed project, on the west end of the urban area is in an environment which has experienced significant changes due to urban development and previous highway construction activities. Home sites, businesses and transportation corridors have eliminated much of the native vegetation and wildlife habitat potential. In spite of these changes, the riverside riparian and wetland zone along that stretch of the Sun River between the Railroad bridge and the 6th Avenue bridge remains viable. This area is adjacent to the Lower Sun River Road proposed turnaround.

Due to long term urban landscaping efforts such as planting and maintenance of trees, there remains habitat for songbirds; those species which have adapted to Montana urban environments. Also, where enough open space permits, some raptor species will utilize the habitat as they prey on song birds and small mammals in vacant fields and lots. None of the areas adjacent to the proposed project appear to remain useful as habitat for ungulates or their predators.

On the north side of I 315, there now exists a trailer court where the northern partial clover leaf and the on ramp will be built. This area is landscaped with cottonwood, blue spruce, lilac, crab apple, juniper, Russian olive, box elder and caraganna, in addition to the domestic lawn grasses and ornamental forbs found in town sites.

On the south side of I 315, the area adjacent to the proposed project is less developed; it remains largely as grassland. The area immediately around the Fish & Game building is devoted to grass hay production. A number of burrows are evident in this field, however, they have been abandoned in the last few years. The vegetation in this area is largely introduced grass species resulting from both farming and road work. In this open area along 14th street there are a few scattered Russian olive and a large willow by the existing building.

### Rare & Sensitive Species.

The MNHP responded to our inquiry with a letter indicating that no records were found in their database concerning the presence of rare or sensitive species in the project area. Correspondence from the MDFWP and a field inspection did not reveal the presence of rare and sensitive species in the project area.

### Impacts

This project is another in a long line of environmental changes which have resulted from the growth of Great Falls and the transportation system. The addition of two partial cloverleafs and ramps to the existing right-of-way will result in removal of topsoil and vegetation, including some large trees. The project area has lost much of it's wildlife value except for birds and small, urban adapted mammals. The area does not appear to support a current population of prairie dogs. These negative biological impacts could be reduced or offset with a reclamation strategy devoted to protection of existing topsoil and vegetation where possible and the addition of tree and shrub species which will support local bird populations.

### Mitigation/Coordination Measures

The main construction area in this project does not lie near the riparian area of the Sun River and will not disturb this area. However, winter migrations of bald eagles along the Missouri River corridor will necessitate their protection from electrocution.

* **Required:** All relocated electrical facilities shall be "raptorproofed" in accordance with MDT Procedure Memorandum #208 - "raptor Proofing".

The Closure of the Lower Sun River Road at 6th Street will be adjacent to the river and offers an opportunity for mitigation. The road and the property it crosses is a mosaic of public and private land. The area immediately around the proposed turnaround closure, in part, belongs to the adjacent trailer court and may be subject to future land use changes. This location is scenic and attracts much public use. Some old car bodies are exposed as they extend from the river bank, and the bank is being undercut. The undercutting of the river bank will soon remove a prominent tree which is a key element of the scenic nature of this inter city natural area.

### Aquatic Resources

This project is near the Sun River, and only slightly farther away from the Missouri River. However, no activities associated with this project are currently planned to take place at or near the Sun River, except for the closure of the Lower Sun River Road at Sixth Street. This road closure and the construction of a turnaround, as planned can easily be accomplished without involving aquatic resources even though this location is a potential location for positive mitigation work on an aquatic resource of high visibility and urban importance.

### Threatened and Endangered Species

#### Wildlife

An inquiry made to the USFWS revealed that three threatened and endangered species which may be found in the area of this project; bald eagle, peregrine falcon and black footed ferret, (McMaster 4/5/92). An additional request for information concerning potential wildlife impacts was addressed to the Montana Department of Fish, Wildlife and Parks concerning this project. They responded with an opinion that "this project will cause no impact on the wildlife resource or wetlands" (Aderhold 4/5/92) .

#### Bald Eagle

#### Analysis

No bald eagle nest territories are known to occur within many miles of this project location. In this area, the type of habitat normally useful for breeding eagles is confined to the Missouri River and the associated riparian bottomland cottonwood/willow forest.

During the field inspection signs of eagle nesting were looked for in the Sun River bottom forest adjacent to the Lower Sun River Road. No nests or eagles were observed.

An inquiry was also made with the US Fish & Wildlife Service concerning the potential effects of this project upon bald eagles. They responded; "no expected project related impacts to threatened and endangered species", (McMaster 4/5/91)

#### Mitigation/Coordination Measures

Please refer to the "Raptorproofing" requirement listed above under Terrestrial Resources; Coordination/Mitigation.

#### Determination of Effects

Based upon the above information and mitigation/ coordination measures, it is the determination of this report that the proposed action is not likely to adversely effect the bald eagle.

### Peregrine Falcon

#### Analysis

Peregrine falcons may also occur in the area as spring and fall migrants due to their use of the Missouri River corridor. There is no cliff nesting habitat in the area of the project, nor any history of recent peregrine activity.

#### Mitigation/Coordination Measures

The following measure is required to insure that impacts to the peregrine are minimized:

* **Required:** All relocated electrical facilities shall be "raptorproofed" in accordance with MDT Procedure Memorandum #208 - "Raptor Proofing".

#### Determination of Effects

Based upon the above information and mitigation/coordination measure, it is the determination of this report that the proposed action is not likely to adversely effect the peregrine falcon.

### Black-Footed Ferret

#### Analysis

This endangered species occurs in association with prairie dog towns. No prairie dog towns are evident in the area of this project. The black-footed ferret is not expected to occur in the project area

#### Mitigation/Coordination Measures

No mitigation/coordination measures are proposed for the black-footed ferret.

#### Determination of Effects

Based upon the above information, it is the determination of this report that the proposed action will have no effect on the black-footed ferret.

## Plants

Correspondence was directed to the Montana Natural Heritage Program in search of information about threatened or endangered plants in the project area. Their response indicated a lack of any information concerning any known occurrences of such plants in the area of this project, (Craig 18/10/92).

## Conclusions

It is the determination of this report that the proposed actions are not likely to adversely affect the bald eagle and peregrine falcon and will have no effect black-footed ferret. The specified mitigation measures have influenced the conclusions drawn from this assessment and are subject to subsequent review by the Endangered Species Office of the USFWS to determine compliance with the Endangered Species Act. Consequently, any substantive measures contained in this assessment will require approval from that office and MDT.

## Wetlands

### Wetlands Descriptions

The most significant wetland environment in this project area is the Sun River and the associated riparian corridor which has been described earlier in this report. Under the proposed plans there will be no impacts upon wetlands.

### Enhancement Opportunities

There are three main areas where this project could potentially include related activities which would both enhance the local environment and improve the Great Falls community.

- Efforts to preserve trees which are not directly in fill areas will enhance the quality of the reclamation.
- If it is not considered cost effective to plant turf grasses and install automatic sprinkler systems, planning may include the development of the current ditch as a seasonal water source. Hydroligic investigation should undertake to design a water delivery system utilizing this ditch which descends into the valley on the south side of the highway fill that will support native vegetation through occassional flooding.
- The construction of a turnaround at the intersection of 6th Street and the Lower Sun River Road will take place at a location which deserves consideration as a small city park. Additional land acquisition could include the area along the Sun River. Repair work is needed to stabilize the river bank, including the support of a large tree, prominent in the area, which is beginning to lean into the river.

For additional discussion of these proposals, please contact the biologist.

## REFERENCES

Craig, Cory. August 10, 1992. Letter to Edrie L. Vinson, Montana Department of Transportation. Montana Natural Heritage Program, Helena, Montana.

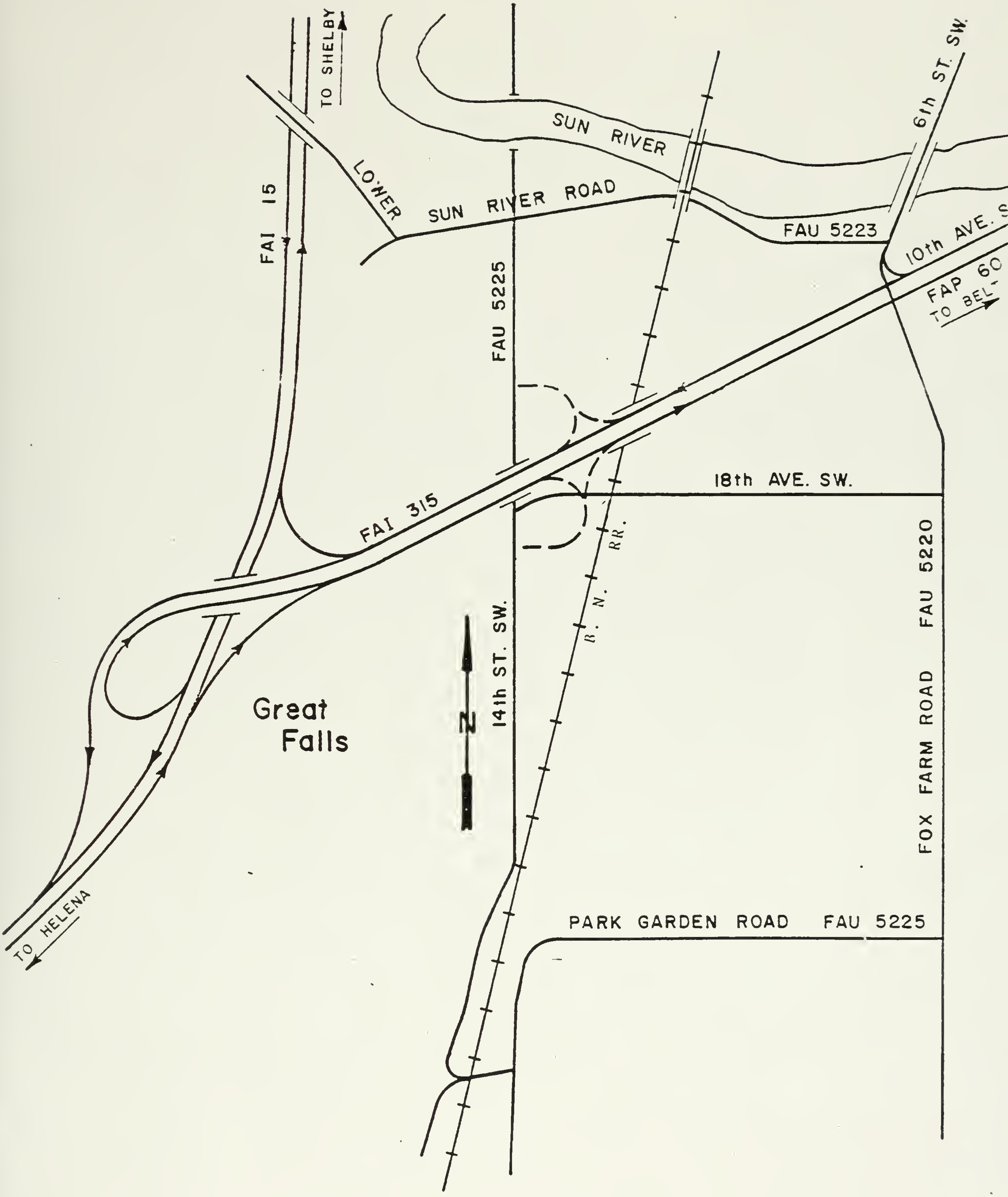
Aderhold, Mike. April 5, 1992. Letter to Edrie L. Vinson, Montana Department of Transportation. Montana Department of Fish, Wildlife and Parks, Helena, Montana.

McMaster, Kemper. April 5, 1992. Letter to Edrie L. Vinson, Montana Department of Transportation. U.S. Fish and Wildlife Service, Dept. of Interior, Helena, Montana.

file: **GREATFALSINTRCHG**

CvH:env

cc: Gordon Larson
Eugene Stettler
D. S. Johnson
John J. Maykuth



## GREAT FALLS - I·315 INTERCHANGE

# APPENDIX C

# PROJECT CORRESPONDENCE

Montana Department
of Transportation

[illegible]

December 22, 1993

Marylee Norris
Special Uses Section Supervisor
Department of State Lands
1625 - 11th Avenue
Helena, MT 59620

Subject: IR 315-5(9)1
I-315 Interchange - Great Falls
Control No. 0349

Attached is a copy of the ROUGH DRAFT environmental document for this proposed project. The document will be submitted to the FHWA for approval as an Environmental Assessment.

We are requesting that the DSL, as a cooperating agency, review the document and return it to this office with comments, as soon as possible. Attachments for this document will be included with the finished format.

If you have any questions please contact this Bureau at 444-0805.

Gordon J. Stockstad

Gordon J. Stockstad, Acting Chief KMH
Environmental & Hazardous Waste Bureau

GJS:KMH:LET:0349DSL2.LTR

Enclosure

cc: Carl S. Peil, P.E., Acting Preconstruction Engineer
Eugene W. Stettler, P.E., District Engineer-Great Falls
Thomas E. Martin, P.E., Right-of-Way Bureau Chief
Dale W. Paulson, Environmental Coordinator
FHWA Montana Division
Mark Ahner, Area Manager, Central Land Office
Department Of State Lands
File

DEPARTMENT OF STATE LANDS
FIELD OPERATIONS DIVISION

MARC RACICOT, GOVERNOR

STATE OF MONTANA

Central Land Office: Helena, MT (406) 444-3633
Eastern Land Office: Miles City, MT (406) 232-2034
Northeastern Land Office: Lewistown, MT (406) 538-5989

Northwestern Land Office: Kalispell, MT (406) 752-7994
Southern Land Office: Billings, MT (406) 259-3264
Southwestern Land Office: Missoula, MT (406) 542-4200

8001 No. Mont. Ave.
Helena, MT 59601
Sept. 24, 1993

FILE
COPY

Montana Department of Transportation
Environmental and Hazardous Waste Bureau
c/o Edrie Vinson
P.O. Box 201001
Helena, MT 59620

Re: IR 315-5(9)1
I315/14th St. S.W. Interchange
Great Falls, Control No. 0349

Dear Mr. Vinson:

We have reviewed the proposed interchange project in Great Falls and the potential impacts to the 11.71 acre parcel of state land in Sec. 15, T20N-R3E (see attached map). Of this 11.71, a total of 4.88 acres in the northern portion of the tract would be impacted by the project.

Currently, the entire acreage is leased for commercial purposes, lease #9953, to Brian and Brenda Heagy. The lease is utilized as a children's day care center, landscape business, and also as a residence. The old Dept. of FWP building (metal quonset) has been remodeled to accommodate its current uses by the Heagy's.

- The lease currently generates $3001.00 per year and has an expiration date of February 28, 2001.
- The value of improvements made by the lessee to the existing facility, according to our records is $3,760.75.
- The value of the facility (minus the lessee's improvements) is not known and would have to be appraised.
- The fair market value of the 4.88 acres would also need to be determined through an appraisal.
- Numerous easements either on or adjacent to this parcel exist for utilities, railroad, city streets, county roads, phone lines, gravel pits, etc. and as such

encumber the tract. A file search by our department office would be needed if DOT wants that type of information.

- Likewise, mineral ownership and their potential loss resulting from this project would have to be researched by our department office.

- The value of remainder of the parcel (6.83 acres) would be diminished in the short term due to its irregular triangular shape, but depending upon zoning and building regulations, the long term value of the remaining acreage could potentially increase revenue to the trust with a commercial lease(s).

In summary, DSL requests that DOT's environmental analysis and appraisals address the issues noted above. Further, the option of DOT purchasing a portion of or the entire 11.71 acre tract should be considered as well as the option of acquiring a right-of-way for the 4.88 acres. For all intents and purposes a R/W would eliminate the utility of this acreage to generate revenue to the school trust.

If you have any further questions, don't hesitate to contact either myself or Marylee Norris.

Sincerely,

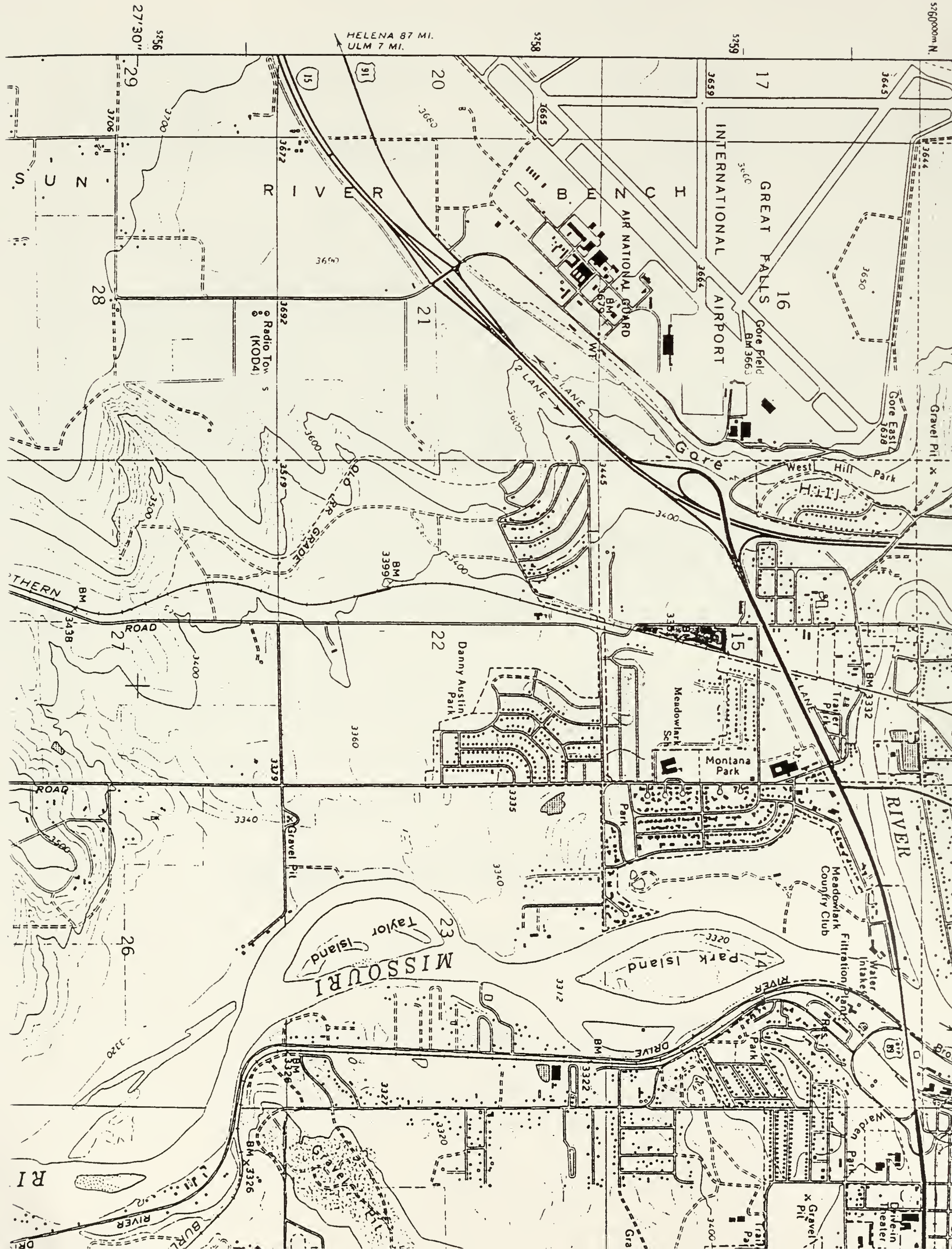
Mark Ahner

MARK AHNER
Area Manager
Central Land Office
Montana Dept. of State Lands

dh

Attach.

cc: Bob Vlahovich, Helena Unit Manager
Marylee Norris, Special Uses Section Supervisor


27'30"
5256
HELENA 87 MI.
ULM 7 MI.
5258
5259
5260000m N.
15
91
29
20
17
SUN RIVER BENCH
GREAT FALLS INTERNATIONAL AIRPORT
AIR NATIONAL GUARD
16
28
21
Radio Tower (KODA)
Gore Field BM 3663
Gore East 3638
Gravel Pit
2 LANE
LANE
OLD RR GRADE
Gore Hill
West Hill Park
NORTHERN ROAD
BM 3438
27
BM 3399
22
15
Danny Austin Park
Meadowlark Sch
Montana Park
Trailer Park
BM 3332
LANE
ROAD
Gravel Pit
Park
RIVER
Meadowlark Country Club
26
23
Taylor Island
MISSOURI
Park Island
14
Filtration Plant
Water Intakes
RIVER
DRIVE
BM 3326
BM 3322
Park
Gravel Pit
BM x 3326
Warden Park
89
RIVER
BURLINGTON
RI
x Gravel Pit
Drive-in Theater
3706
3672
3692
3519
3329
3335
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3327
3320
3300

DEPARTMENT OF STATE LANDS

MARC RACICOT, GOVERNOR
P.O. BOX 201601

STATE OF MONTANA

(406) 444-2074
1625 ELEVENTH AVENUE
HELENA, MONTANA 59620-1601

AUG 20 1993

MASTER
FILE
COPY

cc: Karl Helvick

August 19, 1993

Ms. Edrie Vinson
Environmental & Hazardous Waste Bureau
Department of Transportation
P.O. Box 201001
Helena, MT 59620-1001

RE: IR 315-5(9)1
I-315/14th St. S.W. Interchange - Great Falls
Control No. 0349

The Department's records did not reveal the presence of sites on its ownership in 15-20N-3E. From the aerial photo, it appears that the area is already heavily disturbed and is unlikely to contain significant cultural properties. Therefore, DSL does not have any major cultural concerns at this time.

Sincerely,

Dori Passmann

Dori Passmann, Archaeologist
Land Management Section
Surface Management Bureau
Lands Division

/ns

cc: Marylee Norris, Supervisor, SUS

"AN EQUAL OPPORTUNITY EMPLOYER"

GREAT FALLS CITY-COUNTY PLANNING BOARD
SERVING THE COUNTY OF CASCADE AND CITY OF GREAT FALLS, MONTANA

MASTER
FILE
COPY

July 16, 1993

RECEIVED
JUL 20 1993
ENVIRONMENTAL BUREAU

Ms. Edrie L. Vinson, Chief
Environmental & Hazardous Waste Bureau
Montana Department of Transportation
Helena, Montana 59620

Re: IR 315-5(9)1
I-315/14th St. S.W. Interchange - Great Falls
Control No. 0349

Dear Ms. Vinson:

Regarding the referenced project, the following listed information is provided in response to your letter of request.

1) Existing land use and current development trends in the area. This includes a colored map of the current land uses, as well as a list of the names and addresses of businesses in the immediate area of the project.

2) Plans and policies regarding land use controls and community growth management in the area. Zoning and subdivision regulations are the primary mechanisms used to control land use changes and to manage the type of growth in areas. Copies of City and County zoning regulations, County subdivision regulations and "General Annexation Policies for the City of Great Falls" are attached. As noted in your letter, current City and County zoning maps have been provided previously.

If you have any questions, please advise.

Sincerely,

Benjamin M. Rangel

Benjamin M. Rangel
Senior Planner

BMR:jp

Attachments: As listed above

CIVIC CENTER, P.O. BOX 5021, GREAT FALLS, MT 59403-5021, (406) 727-5881

CENSUS AND ECONOMIC INFORMATION CENTER
MONTANA DEPARTMENT OF COMMERCE
1424 Ninth Ave., Helena, MT 59620-0535 (406) 444-2896

## INQUIRY AND ORDER FORM

RECEIVED
JUL [illegible] 1993
ENVIRONMENTAL BUREAU

| | | |
|---|---|---|
| TALSETH | LARRY | |
| Last Name | First Name | |

Title

ENVIRONMENTAL & HAZARDOUS WASTE BUREAU, MONTANA DEPT. of TRANSPORTATION
Organization

2701 PROSPECT AVENUE
Street Address and/or P.O. Box (need street address for UPS)

| | | |
|---|---|---|
| HELENA | MONTANA | 59620 |
| City | State | Zip |
| 444-0805 | | |
| Phone | Fax Phone | FED X |
| 6-24-93 | | |
| Date of Request | | Deadline |

PROGRAM ADMINISTRATION
Inquiry

1990 CENSUS of POPULATION AND HOUSING P.L. 94-171 BLOCK REPORT: CASCADE COUNTY $10
Products Needed

1990 CENSUS of POPULATION AND HOUSING SUMMARY TAPE FILE 3A COMPREHENSIVE REPORTS,
PROFILE 11 (DISABILITY):
CASCADE COUNTY TRACT 17, BLOCK GROUP 4 (SUMMARY LEVEL 140/150) $1.00
CASCADE COUNTY TRACT 23, BLOCK GROUP 2 (SUMMARY LEVEL 140/150) $1.00

| | | | |
|---|---|---|---|
| $12.00 | | | DEADHEAD |
| Price quote (at time of order) | | | Shipper |
| | 7-7-93 | 7-8-93 | 7-8-93 |
| Date to vendor | Date to programmer | Date shipped | Date invoiced |

THIS IS NOT AN INVOICE. YOU WILL BE INVOICED SEPARATELY.

Montana Department
of Transportation

2701 Prospect Avenue
PO Box 201001
Helena MT 59620-1001

Marc Racicot, Governor

June 22, 1993

Department of Commerce
Census and Economic Information Center
1424 9th Avenue
P.O. Box 200501
Helena, MT 59620-0501

Attention: Patricia Roberts, Program Manager

Subject: IR 315-5(9)1
I-315/14th St. S.W. Interchange - Great Falls
Control No. 0349

The Montana Department of Transportation is in the process of preparing an environmental assessment (EA) for this project and needs the following information for use in the document:

1) Presence, percentage, and distribution of any ethnic or racial minorities in Great Falls and the project area.

2) Total population and trends in population growth for Cascade County, Great Falls and the project area.

3) If possible, the percentage and location of elderly, handicapped, and those who are nondrivers or transit-dependant within the project area.

The project area in general is bounded by Park Garden Road on the south, Fox Farm Road on the east, the Sun River to the north, and includes the Sun River and West Hill Additions to the west (see attached sheets).

If you have any questions, please contact Larry Talseth at 444-0805.

Edrie L. Vinson

for Edrie L. Vinson, Chief
Environmental & Hazardous Waste Bureau

ELV:KMH:LET:0349DC.LTR

Attachments

cc: Eugene W. Stettler, P.E., District Engineer-Great Falls
David S. Johnson, P.E., Preconstruction Engineer
Edrie L. Vinson, Chief
Environmental & Hazardous Waste Bureau

Montana Department of Transportation
Helena, Montana 59620

Memorandum

To: Edrie L. Vinson, Chief
Environmental & Hazardous Waste Bureau

Attn: Larry E. Talseth
Engineering Section

From: Jon Axline, Historian Jon
Resources & Permitting Section

Date: June 18, 1993

Subject: IR 315-5(9)1
Great Falls - I 315 Interchange
Control No. 0349

On June 17th I traveled to assess if an updated cultural resource survey for the above project was necessary. The residential buildings not addressed in the 1980 and 1985 inventories date to the mid to late 1950s. They do not, therefore, qualify for the NRHP. In addition two trailer parks are located on 14th Street Southwest--one just south of the I 315 spur and the other north of the spur. Neither qualify for the NRHP. A modern commercial building is located on the northeast corner of 14th Street and 16th Avenue SW.

Based on the existing plans, it will not be necessary to revise or update the previous cultural resource reports. We have met our Section 106 obligations for this project.

If you have any questions, please let me know.

JA:env

Montana Department
of Transportation

2701 Prospect Avenue
PO Box 201001
Helena MT 59620-1001

Marc Racicot, Governor

June 17, 1993

Great Falls City-County Planning Board
Civic Center
P.O. Box 5021
Great Falls, MT  59403-5021

Attention:  Benjamin M. Rangel, Senior Planner

Subject:  IR 315-5(9)1
I-315/14th St. S.W. Interchange - Great Falls
Control No. 0349

The environmental assessment (EA) that was originally approved for this project by the FHWA on January 13, 1987 is no longer considered valid. As a consequence, we are in the process of preparing a new EA and need the following information:

1) Existing land use and current development trends in the area. Please include the name and address of businesses in the area, and the name, status, and size of any developments. We have current city and county zoning maps for the area.

2) Plans and policies regarding land use controls and community growth management in the area.

A copy of the Revised Scope of Work Report which describes the project, and a "Translite" which shows the project location are attached.

If you have any questions, please contact Larry Talseth at 444-0805.

Edrie L. Vinson

for Edrie L. Vinson, Chief
Environmental & Hazardous Waste Bureau

ELV:KMH:LET:0349PLB.LTR

cc: Eugene W. Stettler, P.E., District Engineer-Great Falls
David S. Johnson, P.E., Preconstruction Engineer
Thomas E. Martin, P.E., Chief, Right-of-Way Bureau
Edrie L. Vinson, Chief

Montana Department
of Transportation

2701 Prospect Avenue
PO Box 201001
Helena MT 59620-1001

June 15, 1993

Marylee Norris
Special Uses Section Supervisor
Department of State Lands
1625 - 11th Avenue
Helena, MT 59620

Subject: IR 315-5(9)1
I-315/14th St. S.W. Interchange - Great Falls
Control No. 0349

This is to request the Department of State Lands (DSL) to be a Cooperating Agency on this proposed project in accordance with the President's Council on Environmental Quality (CEQ) regulations (40 CFR 1501.6).

The proposed project will include acquisition of 4.88 acres of DSL administered land (see attached plan sheet). This property is located in the nw¼nw¼se¼ of Section 15, T-20-N,R-3-E. The site was formerly occupied by Fish Wildlife & Parks and is currently leased by a child care service and landscape business.

The purpose of this proposed project is to construct a partial cloverleaf interchange at the I-315 spur onto 14th Street S.W. A Revised Scope-of-Work Report describing this proposed project, and a "Translite" showing it's location are enclosed.

The DSL has been previously contacted by the MDT about this project (July 25, 1991) and furnished the MDT with information regarding potential for hazardous wastes on the site (August 23, 1991). It was subsequently learned that there had been a leaking underground storage tank on the premises, and that the tank and contaminated soil have been removed. The Department of Health & Environmental Sciences now considers the case resolved.

If the DSL has further information or comments that might be useful in our preparation of the environmental document, please forward it to us at this time.

A written acknowledgement to this Cooperating Agency request letter is needed for the environmental documentation on this proposed project. This proposed project is now scheduled to be "Ready" for letting to contract by April, 1994. Since the Department of State Lands will be a Cooperating Agency on this proposed project the MDT will provide the DSL with a copy of the preliminary (ROUGH DRAFT) environmental document for review and comment.

The FHWA requests that all preliminary documents and correspondence between Cooperating Agencies be kept confidential under the Freedom of Information Act (FOIA) Exemption #5 on intergovernmental exchanges. Premature release of this material could give those with access to it an unfair advantage over the rest of the public. This also encourages special interest groups attempting to influence the decision-making process at inappropriate times.

Therefore, in the course of processing preliminary environmental documents, any comments, reports and/or findings on same, as well as the documents themselves should be withheld when premature release could interfere with the deliberative process. A statement to this effect will be included with copies of the preliminary (ROUGH DRAFT) environmental document provided to the Department of State Lands. The FHWA must approve the final environmental document on this proposed project prior to it's approval for letting.

Please contact this Bureau at:

MONTANA DEPARTMENT OF TRANSPORTATION
ENVIRONMENTAL & HAZARDOUS WASTE BUREAU
2701 PROSPECT AVENUE
PO BOX 201001
HELENA MT 59620-1001

or phone 444-0805 if there are any questions.

Edrie L. Vinson

for Edrie L. Vinson, Chief KMH
Environmental & Hazardous Waste Bureau

ELV:KMH:LET:0349DSL.LTR

Enclosures

cc: Eugene W. Stettler, P.E., District Engineer-Great Falls
Gordon L. Larson, P.E.
Project Development Engineer, Highways Division
David S. Johnson, P.E., Preconstruction Engineer
Thomas E. Martin, P.E., Chief, Right-of-Way Bureau
Edrie L. Vinson, Chief
Environmental & Hazardous Waste Bureau
Dale W. Paulson, Environmental Coordinator
FHWA Montana Division

Montana Department of Transportation
Helena, Montana 59620-1001

Memorandum

To: Edrie L. Vinson, Chief
Environmental & Hazardous Waste Bureau

From: Kurt Bosch

Date: March 4, 1993

Subject: IR-315-5(9)1 I-Change Great Falls

The former Fish Wildlife & Parks building has been cleared by the Department of Health and Environmental Sciences and the Underground Storage Tank has been removed and the soil tested and is free of contamination.

The enclosed report on the site is from Chris Deveny of the DHES and is on file under project #IR-315-5(9)1 and the control number is #349.

MONTANA NATURAL HERITAGE PROGRAM
1515 East Sixth Avenue
Helena, Montana 59620
(406) 444-3009

RECEIVED
AUG 13 1992
ENVIRONMENTAL BUREAU

MASTER FIL
COPY

August 10, 1992

Edrie Vinson, Chief
Environmental & Hazardous Waste Bureau
Department of Transportation
2701 Prospect Avenue
Helena, MT 59620-9726

Dear Ms. Vinson,

This is in response to your requests of August 5 through August 6 for information about occurrences of sensitive species in various project areas as outlined below. Enclosed are reports for 8 element occurrences (total), for the Libby-Northwest, Ennis-North, and Drummond-East & West projects. Each report has your project control number included in the upper right corner. The other project areas currently have no recorded occurrences of sensitive species.

| Control # | Name | # of EO's | |
|---|---|---|---|
| 0341 | Libby-Northwest RS 260-1(1)0 | 1 | |
| 1038 | Ennis-North F 13-1(10)49 | 2 | |
| 1422 | Drummond-East & West IR 90-3(66)150 | 5 | |
| 349 | Great Falls - I-315/14th St. Intchng | 0 | IR 315-5(9)1 |
| 1791 | Great Falls - Fox Farm/10th Ave. | 0 | F 60-2(26)96 |
| 1414 | Central Ave. Bridge Approach | 0 | M 5210(6) |

Please remember that the results of a data search by the Montana Natural Heritage Program are not intended as a final statement on sensitive species within a given area, or as a substitute for on-site surveys needed for environmental assessments.

Sincerely,

Cory Craig
Cory Craig
Assistant Data Manager

MDT
Montana Department
of Transportation

2701 Prospect Avenue
Helena, MT 59620-9726

Stan Stephens, Governor

MASTER F
COPY

August 6, 1992

Natural Heritage Program
Montana State Library
1515 East Sixth Avenue
Helena, MT 59620

Attention: Margaret Beer, Data Manager

Subject: IR 315-5 (9) 1
Great Falls, I-315/14th St. Intchng.
Control # 349

The *Montana Department of Transportation* (MDT) is requesting information from the MNHP for this proposed highway project's environmental documentation.

Attached is a Preliminary Scoping Report describing the project, and a Project Location Map.

Please indicate the occurrence or potential for occurrence of rare plants and/or species of special concern in the vicinity of this proposed project. Any other pertinent comments the MNHP may have at this time would also be appreciated. Statements on these matters will allow initiation, if necessary, of further interagency cooperation to avoid or minimize potential project impacts.

If additional information is needed, please contact MDT's Environmental & Hazardous waste Bureau at 444-7228.

Edrie Vinson

Edrie L. Vinson, Chief
Environmental & Hazardous Waste Bureau

ELV:CvH

Attachments

CC: Edric L. Vinson, Chief - MDT Environmental & Hazardous Waste Bureau

An Equal Opportunity Employer

Montana Department of Transportation
Helena, MT 59620

Memorandum

To: Edrie L. Vinson, Supervisor
Environmental Section

From: Larry J. Ivanovitch, Agronomist
Environmental Section

Date: September 11, 1991

Subject: IR 315
11th St. S.W. Interchange
Hazardous Material Report

The former Fish, Wildlife, and Parks property was inspected on September 5th.

The building contained no potentially hazardous material. The storage areas had concrete floors and the storage area and office space had been cleaned.

The only question unresolved is the tank removal by Fish, Wildlife, & Parks. When this is completed and tested clean, the Department can take the property.

LJI:D:ENV:66.mb

cc: D. S. Johnson
C. S. Peil
J. R. Ricker
E. W. Stettler
Environmental Section

DEPARTMENT OF STATE LANDS

STAN STEPHENS, GOVERNOR

STATE OF MONTANA

(406) 444-2074

CAPITOL STATION
1625 ELEVENTH AVENUE
HELENA, MONTANA 59620

Precon. Preconst. 8/26/91
MAIL ROUTE

| Act | Info | | Attach | Initial |
|---|---|---|---|---|
| | ✓ | 30 Preconst Engr | | |
| | ✓ | 30 Assistant | | |
| | | 30 [illegible] | | |
| | | 31 Safety Mgmt. | | |
| | ✓ | 32 Road Design | | |
| ✓ | | 33 Environment | | |
| | ✓ | 34 Hydraulics | | |
| | | 35 Survey & Mapping | | |
| | | 36 Traffic Eng. | | |
| | | 37 Traffic Operations | | |
| | | 39 Consultant Dsn. | | |
| | ✓ | Stettler | | |
| | ✓ | File | | |

August 23, 1991

Edrie L. Vinson, Supervisor
Environmental Section
MONTANA DEPARTMENT OF TRANSPORTATION
2701 Prospect Avenue
Helena, MT 59620

RE: Former DFWP Headquarters - Great Falls
Your #IR·315 - 5(9)1; I-315/14th St. S.W. Interchange
(#349

Dear Ms. Vinson:

In response to your recent letter, I have contacted personnel from the Department of Fish, Wildlife & Parks in order to obtain the information necessary to answer your questions. The building and all other improvements were constructed while the property was under DFWP's administration and therefore, we have no information available in our files.

The fueling facilities are scheduled for removal sometime this fall. Fish, Wildlife & Parks is responsible for the removal and has advised me that they are planning on removing the underground tanks and other facilities sometime within the next two months. Tom Hansen is the engineer in charge of this project. He is with DFWP's Design and Construction Bureau and may be contacted by phoning 444-3755.

In order to answer your next two questions, I contacted Dan Vincent, DFWP's Regional Supervisor in Kalispell. Dan was previously the Regional Supervisor in Great Falls. He reports that to the best of his knowledge there is no asbestos (insulation, fireproofing, etc.) in the building. The building is in need of testing to verify that fact.

There were pesticides and/or herbicides stored on the property at various times during DFWP's occupation of the premises. Dan specifically remembers the department using Toxaphene, Rotenone, Atrizol and 2-4D. He feels there may have been some others, but, off-hand, can not remember specific names or types.

All substances were removed from the premises when DFWP moved to their new headquarters at Giant Springs. To the best of our knowledge there have been no herbicides or pesticides stored on the premises since then.

The department just recently advertised this property for lease and is in the process of issuing a 10 year lease. We were under the impression that this project had been put on hold as funds were not available for acquisition. Please advise if the status of this matter has changed.

Should you need further information regarding this matter, please feel free to contact us. If I cannot find the information here, I will try to contact someone who can.

Sincerely,

Marylee Norris

Marylee Norris, Supervisor
Special Uses Section
Surface Management Bureau
Lands Division

la

c: Jeff Hagener
Les Saisbury
Dan Vincent, DFWP, Kalispell
Tom Hansen, DFWP, D & C Bureau, Helena

C. L. Vinson

DEPARTMENT OF HIGHWAYS

STAN STEPHENS, GOVERNOR
STATE OF MONTANA
2701 PROSPECT AVE.
HELENA, MONTANA 59620

July 25, 1991

Department of State Lands
Land Administration Division
1625 11th Avenue
Helena, MT 59620

Attention: Jeff Hagener, Administrator

Subject: IR 315 - 5(9)1
I-315/14th St. S.W. Interchange, Great Falls
(P.M.S. C#349)

The Montana Department of Transportation (MDT) is requesting information from the Department of State Lands (DSL) concerning this proposed project. Specifically this proposed project affects DSL property in the vicinity of milepost 1.0± along this route (I-315, FAI 315).

This property is located in the N.W.¼ of the N.W.¼ of the S.E. ¼ of Section 15, Township - 20 - North, Range - 3 - East, M.P. M. This property is the former Montana Department of Fish, Wildlife & Parks (DFW&P) Great Falls District headquarters and shop. The following information is requested concerning this property:

1) Have the fueling facilities (pumps, underground tanks, etc.) been removed from this property?

2) Is there asbestos (insulation, fireproofing, etc.) in any of the buildings on this property?

3) Are any pesticides and/or herbicides currently stored on this property, or have same been stored since it has been under DSL's jurisdiction?

A Scope-of-Work Report describing this proposed project, and aerial photomap ("translite") showing its location are enclosed. This proposed project will involve construction of a new interchange between I-315 and 14th St. S.W. (FAU 5225).

Part of the eastbound ramps from/to I-315 for this proposed project will be located on DSL's property.

A letter of reply concerning the three items previously described on this DSL property is requested. A description of any additional impacts on this property from this proposed project should also be included.

If additional information is needed, please contact the MDT Environmental Section at 444-7632. Please call Larry Ivanovitch, MDT Environmental Section agronomist at 444-6257, if any assistance is needed for identifying the presence of the three items listed previously.

Edrie Vinson

Edrie L. Vinson, Supervisor
Environmental Section

ELV:ASJ:D:ENV:45.cm-1,2

Enclosures

cc: E. L. Vinson
File

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
Fish and Wildlife Enhancement
Federal Building, U.S. Courthouse
301 South Park
P.O. Drawer 10023
Helena, Montana 59626

IN REPLY REFER TO:

FWE-61130-Billings
M.17-FHWA Informal FY91

April 5, 1991

Ms. Edrie L. Vinson
Montana Department of Highways
2701 Prospect Avenue
Helena, Montana 59620

Dear Ms. Vinson:

This responds to your April 1, 1991 letter concerning Montana Department of Highways Project IR 315-5(9)1, 14th Street S.W. and I-315, Great Falls, Montana, and requesting identification of the threatened and endangered species that should be considered in connection with this project. Your letter also invited other comments we may have.

The threatened or endangered species which may occur in the project area include the bald eagle (Haliaeetus leucocephalus), peregrine falcon (Falco peregrinus), and black-footed ferret (Mustela nigripes). However, based upon the nature and specific location of the proposal, we do not expect any project related impacts to threatened or endangered species.

We have no other comments on the project.

We appreciate your efforts to consider and conserve fish and wildlife resources, including threatened and endangered species. If you have questions regarding this letter, please contact Mr. Gary Wood of our Billings Suboffice (406) 657-6750.

Sincerely,

Kemper McMaster
Field Supervisor
Montana/Wyoming Field Office

cc: Suboffice Coordinator, USFWS, Fish & Wildlife Enhancement (Billings, MT)

JGW/dc

"Take Pride in America"

Date Recd. Preconst. 4/8/91

| Act | Info | MAIL ROUTE | Attach |
|---|---|---|---|
| | ✓ | 30 Preconst Engr | |
| | ✓ | 30 Assistant | |
| | | 30 Office Mgr | |
| | ✓ | 32 Road Design | |
| ✓ | | 33 Environment | |
| | ✓ | 34 Hydraulics | |
| | | 35 Survey & Mapping | |
| | | 36 Traffic | |
| | | 39 Consultant | |
| | ✓ | [illegible] | |
| | | | |
| | | | |
| | | | |
| | ✓ | File | |

**Montana Department
of
Fish, Wildlife & Parks**

P.O. Box 6610
Great Falls MT 59406

April 5, 1991

Ms Edrie L. Vinson, Supervisor
Environmental Section
Department of Highways
2701 Prospect Avenue
Helena, Montana 59620

RE: IR-315-5(9)1, 14th St SW & I-315, Great Falls (New Interchange P.M.S. C #349)

Dear Ms Vinson,

This project will cause no impact on the wildlife resource or on wetlands. We know of no unique "problems" or items of concern.

The former Great Falls Regional Headquarters and shop was turned over to the Department of State Lands who also owns the land.

I do not know if the site has been tested for hazardous waste however the FWP department had to pay recently for the removal of our underground gasoline tanks. I do not know if the DFWP is responsible for the removal of any other hazardous wastes that may be found on this site.

Thank you for the opportunity to comment.

Sincerely,

Mike Aderhold
MIKE ADERHOLD
Regional Supervisor

MA/eh

Date Recd. Preconst. 4/8/91

| Act | Info | MAIL ROUTE | Attach | Initial |
|---|---|---|---|---|
| | ✓ | 30 Preconst Engr | | |
| | ✓ | 30 Assistant | | |
| | | 30 Office Mgr | | |
| | ✓ | 32 Road Design | | |
| | ✓ | 33 Environment | | |
| | ✓ | 34 Hydraulics | | |
| | | 35 Survey & Mapping | | |
| | | 36 Traffic | | |
| | | 39 Consultant | | |
| | ✓ | Stottler | | |
| | | | | |
| | | | | |
| | | | | |
| | ✓ | File | | |

Montana Department of Highways
Helena, Montana 59620

Memorandum

To: Edrie L. Vinson, Supervisor
Environmental Section

From: Donald P. Dusek, P.E.
Traffic Engineer

Date: April 4, 1991

Subject: IR 315-5(9)1
I-315/14th Street West Interchange
Great Falls

This is in response to your request for a level of service analysis regarding impact created on local streets with introduction of the interchange. According to the traffic volume projections you provided us, the only local roadway expected to experience an increase in traffic volume as a result of this new point of access is 14th Street S.W. The interchange will draw traffic away from the other local roadways that presently provide access to 14th Street and the developments it serves. Since 14th Street is the only roadway to be affected by an increase in traffic volume, it is the only roadway where level of service could be a significant issue.

The traffic volume projections show that the direct access to I-315 will have a significant affect on traffic volumes (both present and future) on 14th Street. It is design year which we are concerned with here. The projections show AADT volumes of 5000 v.p.d. with the new access and 2900 v.p.d. without it by the year 2010. For analysis purposes, that equates to design hourly volumes of 500 v.p.h. and 290 v.p.h.

There is not a direct method available for assessing L.O.S. on urban roadways that involve uninterrupted flow conditions and which involve travel speed conditions typically well below open-road rural levels. The approach we have taken is to first assess what the service volume would be at capacity (L.O.S. "E") and then compare that to the design volume, with the understanding of what is expected of urban facilities.

In urban environments, travel time is the primary measure of effectiveness. Therefore, as long as flow is relatively uninterrupted, slower speeds are tolerated and stopped delay is the significant issue. On 14th Street, travel speeds are typically found at approximately 45 mph or less. In urban areas, as long as average travel speeds along a facility are in the range of 22 mph or greater, level of service "C" exists. It is my opinion that the level of service on 14th Street S.W. with or without the new access would be no worse than LOS "C" and probably at LOS "B" (28 mph average travel speeds). Traffic flow is expected to be uninterrupted and the design volume of 500 v.p.h. falls well below the service volume at capacity of approximate 2600 v.p.h. (calculated for a 32-foot wide roadway with 1% trucks, 55/45 directional split). Also, this level of traffic volume allows for reasonable gap availability so we would not expect significant impedance by traffic desiring access to and from the facility at anticipated access points.

In my opinion, an increase in the anticipated D.H.V. from 290 v.p.h. to 500 v.p.h. (2010) is not sufficient to constitute a major change in traffic flow characteristics. Traffic should continue to be served very well by the two-lane roadway.

If you should have any questions regarding this analysis, please contact me.

DPD:D:TR:65.cm

cc: G. L. Larson
D. S. Johnson
C. S. Peil
D. P. Dusek

DEPARTMENT OF HIGHWAYS

STAN STEPHENS, GOVERNOR
2701 PROSPECT AVE.

STATE OF MONTANA

HELENA, MONTANA 59620

April 1, 1991

Kemper McMaster, Field Supervisor
U.S. Fish & Wildlife Service
Federal Building 301 South Park
P.O. Box 10023
Helena, MT 59626

Subject: IR 315-5(9)1
14th St. S.W. & I-315, Great Falls
(New Interchange)
(P.M.S. C#349)

In accordance with Section 7(a) of the Endangered Species Act, the Montana Department of Highways is requesting a list of threatened or endangered species in the vicinity of this proposed project. This proposed project was formerly known as the M 5225(1) "I-315 spur" project. This information will be used in the preparation of the project environmental document. Any other pertinent comments you may have at this time would also be appreciated.

Enclosed is a copy of the Design Planning Report describing the proposed project and two copies of the "translites" showing the project location.

If we have not received a reply within 30 calendar days, we will assume your agency has no information necessary for inclusion in our environmental document.

If you have any questions, please contact this office at (406)444-7632

Edrie Vinson

Edrie L. Vinson, Supervisor
Environmental Section

ELV:ASJ:D:ENV:118.mb

Enclosures

cc: E. L. Vinson
File

AN EQUAL OPPORTUNITY EMPLOYER

DEPARTMENT OF HIGHWAYS

STAN STEPHENS, GOVERNOR
2701 PROSPECT AVE.
STATE OF MONTANA
HELENA, MONTANA 59620

April 1, 1991

Mike Aderhold, Regional Supervisor
Region #4 - Great Falls
Montana Department of Fish,
Wildlife & Parks
P.O. Box 6609
Great Falls, MT 59406

Steve Knapp, Chief -
Habitat Bureau
Wildlife Division
Montana Department of Fish,
Wildlife & Parks
1420 East 6th Avenue
Helena, MT 59620

Subject: IR 315-5(9)1
14th St. S.W. & I-315, Great Falls
(New Interchange)
(P.M.S. C#349)

This is a request for information on wildlife resources relative to this proposed highway project. This is needed for the preparation of the environmental document on this proposed project. This project was formerly known as the M 5225(1) "I-315 spur" project.

Attached is a copy of the Design Planning Report describing the project and the "translites" showing the proposed project location. Please provide the following information:

1) Type of wildlife habitat in the general project vicinity;

2) Any comments concerning potential project impacts on wildlife habitat (including wetlands) in the vicinity of the proposed project.

If any additional information is available at this time that would be useful in project evaluation, please include it. This information may include incidence of known raptor conflicts with power lines in the vicinity, unique "problems" or items of concern with big game or non-game species, area management goals, etc. Statements on these matters will allow initiation, if necessary, of further interagency coordination to avoid or minimize potential project impacts. If no reply is received within 30 calendar days, it will be assumed there is no information necessary for inclusion in the environmental document.

Is the former Great Falls Region headquarters/shop property on 18th Ave. S.W. and 14th St. S.W. still owned by DFW&P? Has this site been tested for hazardous waste by any local, state, or federal agency? Will DFW&P or any other state agencies be responsible for the removal/disposal of any hazardous wastes found on this site?

If there are any questions, please contact the Environmental Section at 444-7632.

Edrie Vinson

Edrie L. Vinson, Supervisor
Environmental Section

ELV:ASJ:D:ENV:117.mb

Attachments

cc: E. L. Vinson
File

[illegible] 701
Cascade County, Clerk & Recorder
July 23, 1990.

June, 1990

# MEMORANDUM OF UNDERSTANDING
# I-315/14TH STREET S.W. INTERCHANGE
# GREAT FALLS/CASCADE COUNTY, MONTANA

The undersigned parties to this agreement acknowledge that: 1) the conditions set forth herein apply to the proposed I-315/14th Street S.W. Interchange Project in its presently conceived design concept and location; 2) the project will continue to proceed through the normal Montana Department of Highways (MDOH) location, design, and environmental review processes; 3) any change in the scope, location, funding, or other significant aspects of the project may result in voiding or renegotiation of this agreement; and 4) the conditions of this agreement apply only to the use of Interstate 4-R funds.

All parties hereby agree to the following concerning the I-315/14th Street S.W. Interchange Project:

1. The City and County will continue to support the Interchange Project as a high priority.

2. The City and County will provide a contribution in the amount of $100,000. The funding sources and amounts would include City Gas Tax or City Discretionary funds ($40,000), county budgeted funds ($10,000), and Federal Aid Urban System Funds ($50,000). It is understood that the $50,000 in city and county budgeted funds will be applied towards the construction cost of the interchange. It is further understood that the $50,000 in Federal Aid Urban System Funds will fund

improvements intended to mitigate impacts of the interchange project on residents west of and along 14th Street S.W. This $100,000 contribution will be in addition to an estimated $165,000 in utility costs associated with the project to be borne by the City.

3. It is understood that design constraints do not allow continuation of the existing 18th Avenue S.W. approach to 14th Street S.W. If local governments desire to provide an alternative access to 14th Street S.W., the design and construction cost of such a connection and all other related items will be borne by the local governments. It is also understood that any new connection to 14th Street S.W. will be a minimum of 300 feet south from the proposed interchange ramp termini.

4. The City and County acknowledge that an access control resolution is in place to close the Lower Sun River Road approach to 6th Street S.W. Additionally, the City and County acknowledge that the closure will take place immediately after the interchange ramps are open to traffic. The Department will obliterate the pavement immediately adjacent to 6th Street S.W. and will install curbing, barricades, or other physical barriers necessary to close the street. Any additional work required will be the responsibility of the City.

The Department will proceed with the development of the project subject to the above conditions. However, in the event Interstate 4-R funding is eliminated by Congress or reduced to a level which precludes construction of the project with such funds, this agreement may be voided at the discretion of the Department.

DATED this 3d day of July, 1990.

CASCADE COUNTY COMMISSIONERS

By: ______________________
Chairman

______________________
Commissioner

Henry G. Mitchell
Commissioner

______________________
County Clerk & Recorder

CITY OF GREAT FALLS

By: ______________________
Mayor

John W. Lawton
City Manager

______________________
Clerk of Commission

MONTANA DEPARTMENT OF HIGHWAYS

By: ______________________
Director of Highways

U.S. Department
of Transportation
**Federal Highway
Administration**
Region Eight

**MONTANA DIVISION**

400 Seventh St. S.W.
Washington, D.C. 20590

301 S. Park
Drawer 10056
Helena, MT 59626

CEIVE
MAR 27 1989
ENA, MONTANA

March 23, 1989

Stephen C. Kologi
Chief, Preconstruction Bureau
Montana Department of Highways
Helena, Montana

HPP-MT

Dear Mr. Kologi:

Subject: IR 315-5(9)1
I 315/14th Street S.W. Interchange
Great Falls

We have reviewed your request to allow right-turn-in and right-turn-out movements at 17th Ave. S. W. Allowing these movements will probably cause no problems in the near term. It is very likely that problems will develop in the future that will be very difficult to correct.

We believe the traveling public will be better served if the movements at 17th Ave. are restricted and 16th Ave. is paved. When considering the magnitude and life of the proposed improvement, it becomes apparent that everything possible should be done now to insure its proper function as future changes to the geometrics will be difficult. However, changes in land use are likely and they may generate unanticipated traffic. In addition, Interstate standards state that control of access for connections to the crossroad should be affected beyond the ramp terminals. The paving of 16th Ave. would, of course, be a participating cost.

It should also be noted that the preliminary layout which was submitted to our Region office for access approval did not provide access for 17th Ave. and consultation with them will also be required. We would be happy to discuss this subject with you in greater detail if you wish but it appears to us that closing 17th Ave. is the correct approach.

Sincerely,

W S Dunbar
W. S. Dunbar
Planning & Program Development Engineer

DEPARTMENT OF HIGHWAYS

STAN STEPHENS, GOVERNOR
2701 PROSPECT AVE

STATE OF MONTANA

HELENA, MONTANA 59620

March 16, 1989

William S. Dunbar
Planning & Program Development Engineer
Federal Highway Administration
301 South Park, Drawer 10056
Helena, MT 59626

IR 315-5(9)1
I 315/14TH STREET S.W. INTERCHANGE
GREAT FALLS

As you know from attending the Public Hearing, the residents northwest of the proposed new interchange strongly support keeping 17th Ave. S.W. open for local access. You will recall that 17th Ave. S.W. gives residents direct access to 14th Street S.W. without a longer circuitous movement along the non-paved section of 16th Ave. S.W. This proposal is discussed in the Environmental Assessment as an alternate to closure.

In order to eliminate this "stumbling block" within the scope of the proposed project, and eliminate the need to pave 16th Ave. S.W., we feel that right-turn-in and right-turn out-movements to and from 17th Ave. S.W. should be allowed. We do not feel these movements will hinder operation of the interchange since they will take place on the opposite side of the curbed median from the north ramp terminal.

Your prompt consideration and approval will be appreciated.

Stephen C. Kologi
STEPHEN C. KOLOGI, P.E.
CHIEF - PRECONSTRUCTION BUREAU

Approved See FHWA Letter dated 3/23/89 Date ____________
William S. Dunbar
Planning & Program Development Engineer
Federal Highway Administration

SCK:MJL:mb:2/a

cc: T. J. Barnard
S. C. Kologi
K. F. Skoog
G. A. Jackson
R. E. Champion
M. J. Langenfus

U.S. Department of Transportation
**Federal Highway Administration**
Region Eight

MONTANA DIVISION

301 S. Park
Drawer 10056
Helena, MT 59626

MONTANA DEPT. OF HIGHWAYS
RECEIVED
DEC 21 1988
HELENA, MONTANA

MAIL ROUTE
30 Eng. Specialties
31 Contract Plans
32 Loc. Road Design
34 Hydraulic
35 Surfacing Design
36 Traffic
37 Pub. Hearing
38 Photogrammetry
39 Consultant Design
File

December 20, 1988

HPP-MT

Stephen C. Kologi
Chief, Preconstruction Bureau
Montana Department of Highways
Helena, Montana

Dear Mr. Kologi:

Subject: IR 315-5(9)1 I-315/14th Street S.W. Interchange
Great Falls

We have reviewed the rough draft revisions for the Environmental Assessment for this project. Enclosed is a rough draft of how we see the Environmental Assessment might be modified and hopefully improved.

Several features still need to be covered. Several citizens suggested leaving lower Sun River Road at 6th Street S.W. open to right turn on and off traffic and closing the median. The right turn out is a hazard if left turns on to 10th Avenue South eastbound are allowed. In any event, your reasons for complete closing of the lower Sun River Road should be clearly stated. Wasn't there a discussion to at least have pedestrian and bicycle access?

The proposal for no access control on 14th St. at 17th Ave. is also of concern. Certainly the interchange will operate better with no access at this location. To overcome local opposition, we would recommend the cul-de-sac and possibly provide pavement on 17 18th St. to handle the extra traffic. The interchange layout as presently approved by our Region office provided access control between the ramp terminals on the west side of 14th St. We would need a well supported request to allow such access.

We would be pleased to meet and discuss the matter further if you desire. Upon receipt of a satisfactory Final Environmental Assessment we will take action on your proposal to approve a FONSI.

Sincerely,

W S Dunbar
W. S. Dunbar
Planning & Program Development Engineer

Enclosure
hand carried to
Mike Langenfus
12-20 WSD

# ENVIRONMENTAL ASSESSMENT
(Preliminary Environmental Review)

FEDERAL AID PROJECT NO. M 5225(1)

GREAT FALLS - I-315 INTERCHANGE

LENGTH - 0.1 MILE

CASCADE COUNTY

This document has been prepared in conformance with both National Environmental Policy Act (NEPA) and Montana Environmental Policy Act (MEPA). It contains the information required for an Environmental Assessment (NEPA) and a Preliminary Environmental Review (MEPA).

Submitted by:

______________________________ Date ______________

Montana Department of Highways
Preconstruction Bureau

Reviewed and Approved
for Distribution:

______________________________ Date January 13, 1987

For Federal Highway Administration
Division Administrator

WMS:3:cm:242/S1

## 1. DESCRIPTION OF PROPOSED ACTION

The proposed project is located on the I-315 spur near the southwest boundary of the Great Falls urban area in Cascade County, between the 14th Street S.W. and the B.N.R.R. grade separation (see attached autoscreen, Figure I). It will provide a full access, partial cloverleaf (par-clo) interchange (see Figure II). The project will include the following:

- The necessary grading for four ramps.
- Widening of two bridges for the acceleration lane tapers on the entrance ramps.
- Construction of two structures for the exit ramps.
- Elimination of the 18th Avenue S.W. connection to 14th Street S.W.
- Elimination of the Lower Sun River Road connection to 6th Street S.W.
- Widening and channelization of 14th Street S.W. between the ramp termini.
- Access along 14th Street S.W. will be controlled through the interchange area.

A firm letting date has not been established, nor has a funding source been committed. Depending on completion of the plans, right-of-way acquisition and availability of funds, we anticipate construction during the 1990 to 1994 time frame.

### Description of Region

Montana's 56 counties are divided into six economic regions by the University of Montana's Bureau of Business and Economic Study Volume III (1970). Cascade County is in Region II, which includes 13 other counties. Great Falls is the region's largest city and major trade center.

The City of Great Falls experienced a 6 percent decrease in populace from 1970 to 1980; however, outside the central city there was an increase of 10 percent for the same period.

Most of the land area in Region II is devoted to farming and ranching. Non-agricultural activity is centered in the Great Falls area.

The metropolitan area has good highway access to the rest of the state. U.S. Highway 87 connects Great Falls with Fort Benton and Havre to the northeast. To the southeast it connects with Billings via Lewistown. U.S. Highway 89, the old Yellowstone-Glacier Park road, connects Great Falls to the southeast with Livingston and I-90 via White Sulphur Springs, and to the northwest connects with Choteau, Browning and Glacier National Park. Montana 200, a major grain transportation route, connects Great Falls with I-90 and Missoula to the west. The major north-south route is Interstate 15 which connects Great Falls with the Canadian province of Alberta and then extends southwestward to Helena and Butte.

Tenth Avenue South, the major transportation link serving the southern portion of Great Falls, was classified as a principal arterial in the 1976 urban functional classification. The I-315 spur becomes Tenth Avenue South at the Sixth Street S.W. intersection. This arterial serves not only as a major east-west cross town connector, but it is a regional transportation link for I-15 traffic from Canada to the north and Helena to the south with eastern Montana and the towns of Lewistown and Billings via U.S. 87 and 89.

Most of the major shopping areas and retail outlets are located on 10th Avenue South, in the fairgrounds area and in the central business district. The proposed project will not serve as a major transportation route for regional traffic but will connect the local area with the rest of Great Falls and the region.

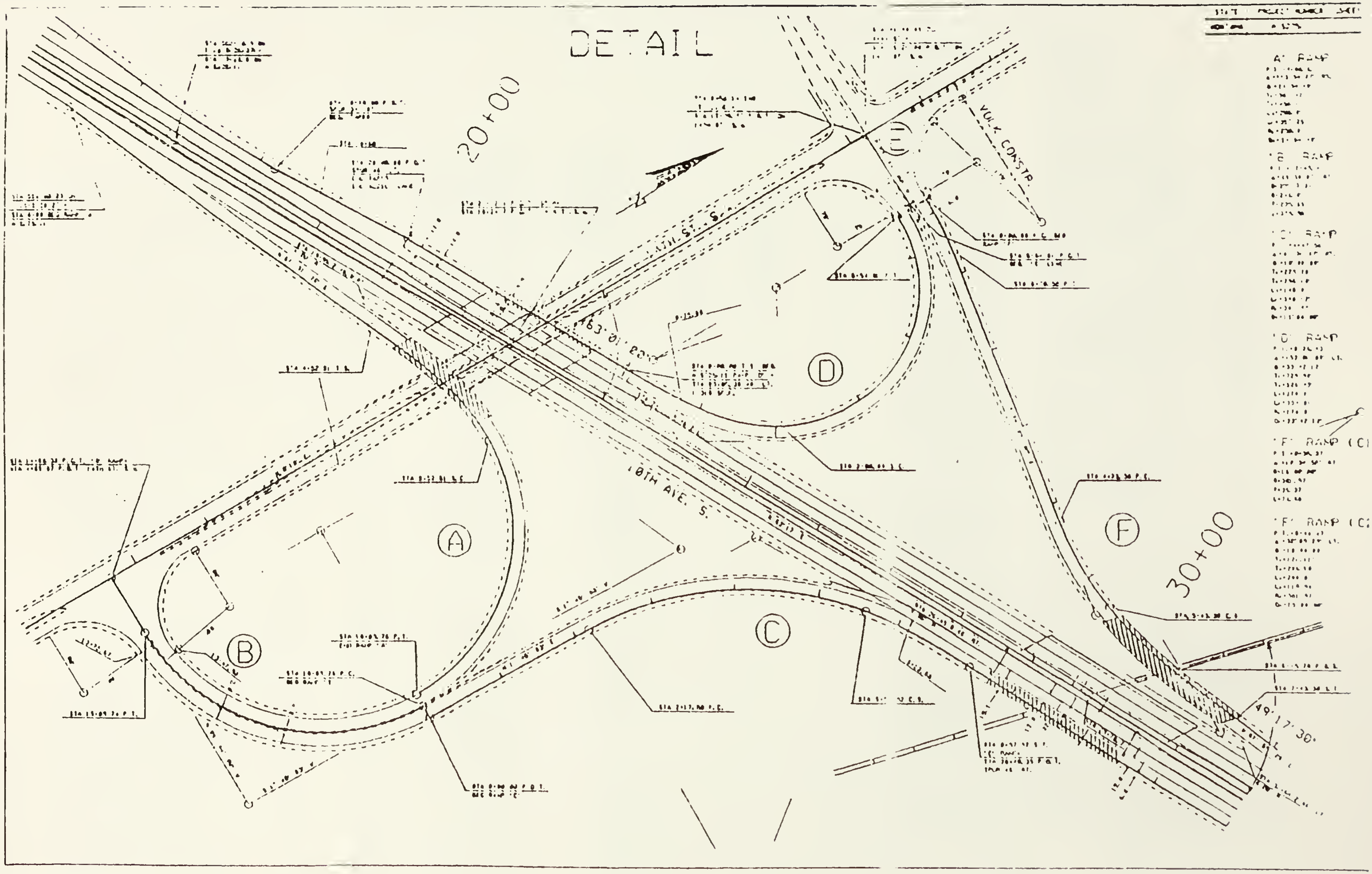

DETAIL
20+00
30+00
A
B
C
D
E
F
VOLK CONSTR.
TH ST. S.
10TH AVE. S.
63°01'20"
49°17'30"
"A" RAMP
"B" RAMP
"C" RAMP
"D" RAMP
"E" RAMP (C)
"F" RAMP (C)

FIG. 11

## 2. NEED FOR PROPOSED ACTION

Access to the area along 14th Street S.W. has become more limited in recent years. This project is needed to provide adequate access for the area with the rest of Great Falls and the region. The area served by this project is generally bounded by I-15, the B.N. Railroad and the Sun River. A large area west of I-15 is also served via the lower Sun River Road overpass. Traffic in this area has historically used the following routes (see Figure III):

A. 14th Street S.W. Sun River Bridge
B. Lower Sun River Road (L.S.R.Rd.)
C. 18th Street S.W.
D. Park Garden Road (FAU 5225)

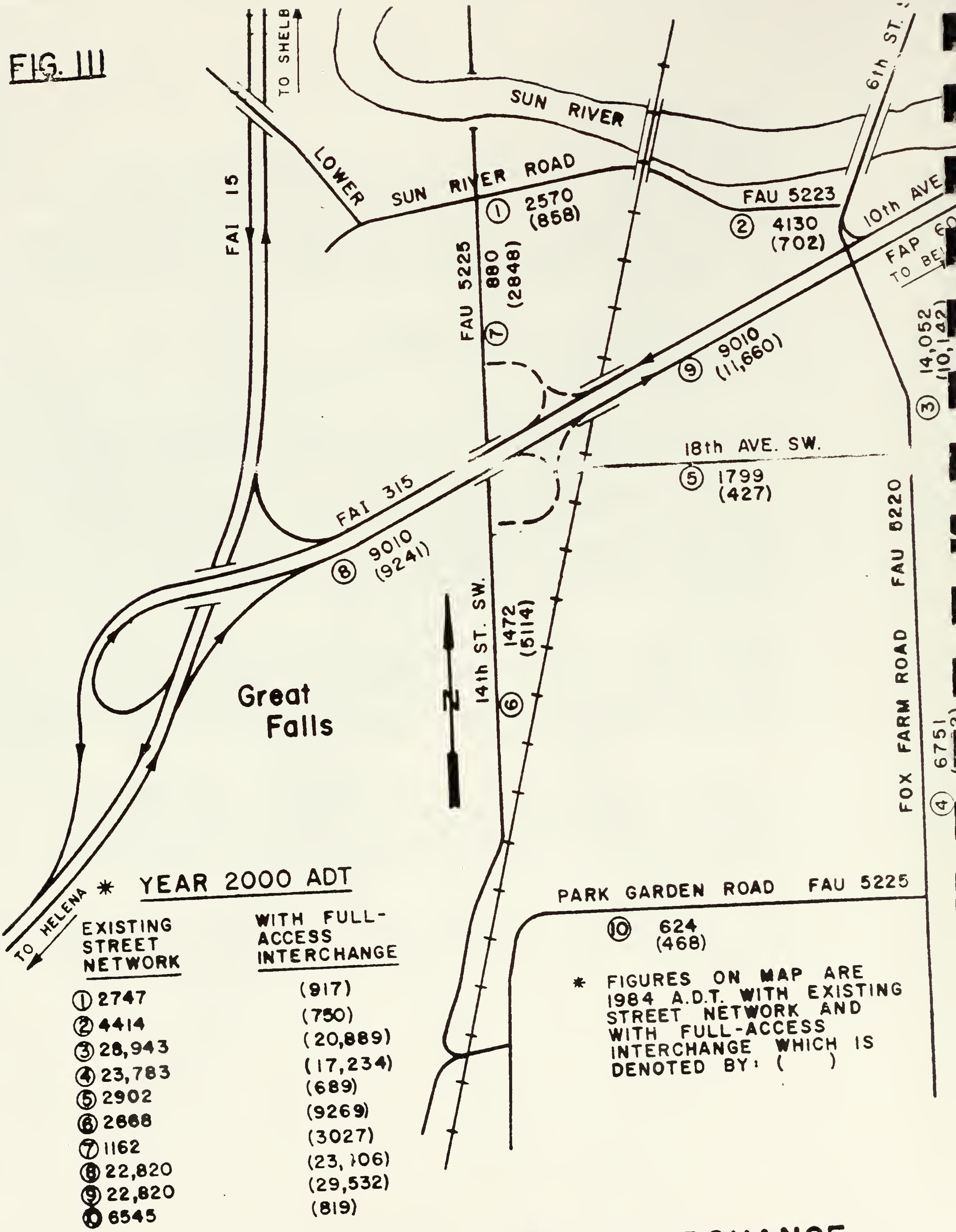
The 14th Street S.W. Bridge over the Sun River was removed in 1983 as part of a Corps of Engineer's flood control system. The intersection of the L.S.R. Rd. with 6th St. S.W. is undesirable from a traffic operation and capacity standpoint. The left turn movement from 6th Street S.W. onto L.S.R. Rd. will be eliminated when this left turn demand causes operational problems at the I 315/6 St. S.W. intersection, or construction of the I-315 Interchange, whichever comes first. As part of this project, the east end of L.S.R. Rd. will be terminated with a cul-de-sac.

18th Avenue S.W. is only a two-lane city street which should serve primarily local traffic instead of being a major connector between a large residential area and Fox Farm Road. Both 18th Avenue S.W. and Park Garden Road feed additional traffic via Fox Farm Road to the heavily used I-315/6th St. S.W. intersection.

In addition to providing adequate access to the area, the project should also improve operating conditions on Fox Farm Road and the I-315/6th Street S.W. intersection. As these operational conditions are enhanced, a major portion of this growing urban area of southwest Great Falls will also benefit.

The attached sketch map (Figure III) shows the average daily traffic on major streets in the area with the existing street network and with the proposed interchange in place. Traffic counts are shown for both 1984 and 2000.

FIG. III



YEAR 2000 ADT *

| EXISTING STREET NETWORK | WITH FULL-ACCESS INTERCHANGE |
|---|---|
| ① 2747 | (917) |
| ② 4414 | (750) |
| ③ 28,943 | (20,889) |
| ④ 23,783 | (17,234) |
| ⑤ 2902 | (689) |
| ⑥ 2668 | (9269) |
| ⑦ 1162 | (3027) |
| ⑧ 22,820 | (23,106) |
| ⑨ 22,820 | (29,532) |
| ⑩ 6545 | (819) |

* FIGURES ON MAP ARE 1984 A.D.T. WITH EXISTING STREET NETWORK AND WITH FULL-ACCESS INTERCHANGE WHICH IS DENOTED BY: (   )

GREAT FALLS - I·315 INTERCHANGE

## 3. ALTERNATIVES CONSIDERED

A half-diamond interchange originally considered would have provided an exit ramp for westbound traffic and an entrance ramp for eastbound traffic. This proposal was dropped in favor of the full-access, par-clo interchange which has the approval of local authorities. The half-diamond concept was rejected because it would not provide vital access in and out of the 14th Street area from the west. It would have required out-of-direction U-turn movements to serve this traffic.

The "do-nothing" alternative was rejected because it would not provide adequate access to the project area or any relief for traffic congestion at the I-315/6th Street S.W. intersection.

## 4. IMPACTS

### Vegetation

Because the project lies in a developed urban area, any impact to native vegetation should be insignificant. Some clearing will be required where additional right-of-way is necessary, but the impact should be minimal. The disturbed areas will be replanted.

### Wetlands

There are no areas which could be considered wetlands within the proposed project area.

### Floodplains

The proposed project lies outside the Sun River floodplain; therefore, no floodplain permits or Section 404 Permits will be required.

### Fish & Wildlife

Since this project is located in an urban area, no significant impacts to fish and wildlife are anticipated. The predominant wildlife in the area are birds which reside around the Missouri and Sun Rivers.

### Water Quality

A minor temporary increase in water pollution is expected during the actual construction process. The contractor will be required to comply with all state and federal regulations relating to the prevention or abatement of water pollution.

The project crosses no drainages and should have little impact on long-term water quality. The ramps of the interchange will alter runoff patterns in the area with runoff concentrated along 14th Street S.W. This runoff will be discharged into the existing storm sewer along 14th Street S.W.

### Air Quality

Construction of the project will cause some temporary air pollution due to dust and fumes. The contractor will be required to adhere to all federal, state and local regulations to minimize this pollution.

Both the Air Quality Bureau of the Montana Department of Health and Environmental Sciences and the Montana Department of Highways' Air

Quality specialist have studied the project. This project should have a beneficial impact on long-term air quality. Air quality of the general area should improve because traffic congestion will be reduced. Reduced stop-and-go conditions and reduced travel distance are the main contributing elements to the improvements in air quality.

This project is in an air quality non-attainment area for carbon monoxide. Control measures are included in the State Implementation Plan (SIP) to achieve air quality standards by 1986.

The Great Falls Transportation Plan and the Transportation Improvement Program (TIP) (both of which include this project) are considered to be in conformance with the SIP. The Transportation Plan Reassessment was reviewed and approved by FHWA on December 29, 1983. A major update of the Great Falls Transportation Plan Update is now underway. It is expected that the updated transportation plan will be completed before January, 1988, and that the I-315 interchange project will remain in the plan. The 1986 TIP was reviewed and approved by FHWA on January 24, 1986. The 1987 TIP includes this project and was approved by the Great Falls Policy Coordinating Committee in November, 1986. FHWA approval is anticipated in January, 1987. Therefore, pursuant to 23 CRF 770, this project is not in conflict with the SIP.

### Historical and Archaeological Sites

A cultural resource survey was conducted in 1983. Several houses were identified in the area of land to be acquired. These houses may be 50 years old by the time of construction (1990 or later) and thus might meet National Register criteria for historic significance. The 1983 survey concluded that only one of these structures appeared to possess some architectural or historical significance.

> The Anderson residence at 1605 - 14th Street S.W. was built around 1930. It is a one-and-a-half story polychrome brick, single family residence which displays imagination of materials and quality craftsmanship and is of minor architectural significance. The surrounding trailer court has severly impacted the environmental integrity around the property.

In 1985 the State Historic Preservation Office determined that none of the properties identified meets the National Register Criteria of Significance.

### Parks and Recreation

There are city parks and tennis courts in the general vicinity of the project. None of these facilities will be affected by the project.

### Transportation

The impact of the project on area transportation will be beneficial (see traffic projections on Figure III).

This project is part of the Area Wide Transportation Plan and is supported by the City of Great Falls and Cascade County. The following improvements are foreseen:

1. Truck traffic on 18th Avenue S.W., Fox Farm Road and Sun River Road will be substantially reduced.

2. Traffic volumes through the school zone on Fox Farm Road will be reduced.

3. The improved access will result in improved police and fire protection for area residents.

4. With the traffic on the interstate instead of local streets:

    a. safety is increased for vehicles and pedestrians
    b. traffic congestion is reduced
    c. air pollution and noise impacts are reduced
    d. the whole area benefits from an improved transportation system

As part of the proposal to control access along 14th Street S.W., two existing street accesses will be eliminated. Cul-de-sacs will be constructed at the eastern end of 17th Ave. S.W. and at 18th Ave. S.W. just east of the B.N. tracks.

Residents west of 14th Street S.W. along 18th Avenue S.W. and 17th Avenue S.W. will have slightly longer travel distances (two - three blocks) to gain access to 14th Street S.W.

Residents in the area bounded by the B.N. tracks on the west, I-315 spur to the north, Fox Farm Road to the east, and 22nd Avenue S.W. to the south will have considerably longer travel distances to reach 14th Street S.W. However, since there are few traffic generators along 14th Street to attract traffic from the aforementioned area, the reduced access to 14th Street S.W. is not significant.

To improve traffic operations and capacity of the I-315/6th St. S.W. intersection, a cul-de-sac will be constructed at the Lower Sun River Road connection to 6th St. S.W. This will result in increased travel distances ranging from 0.5 to 1.0 miles for residents along Lower Sun River Road trying to gain access to the I-315/6th St. S.W. intersection.

### Existing Land Use

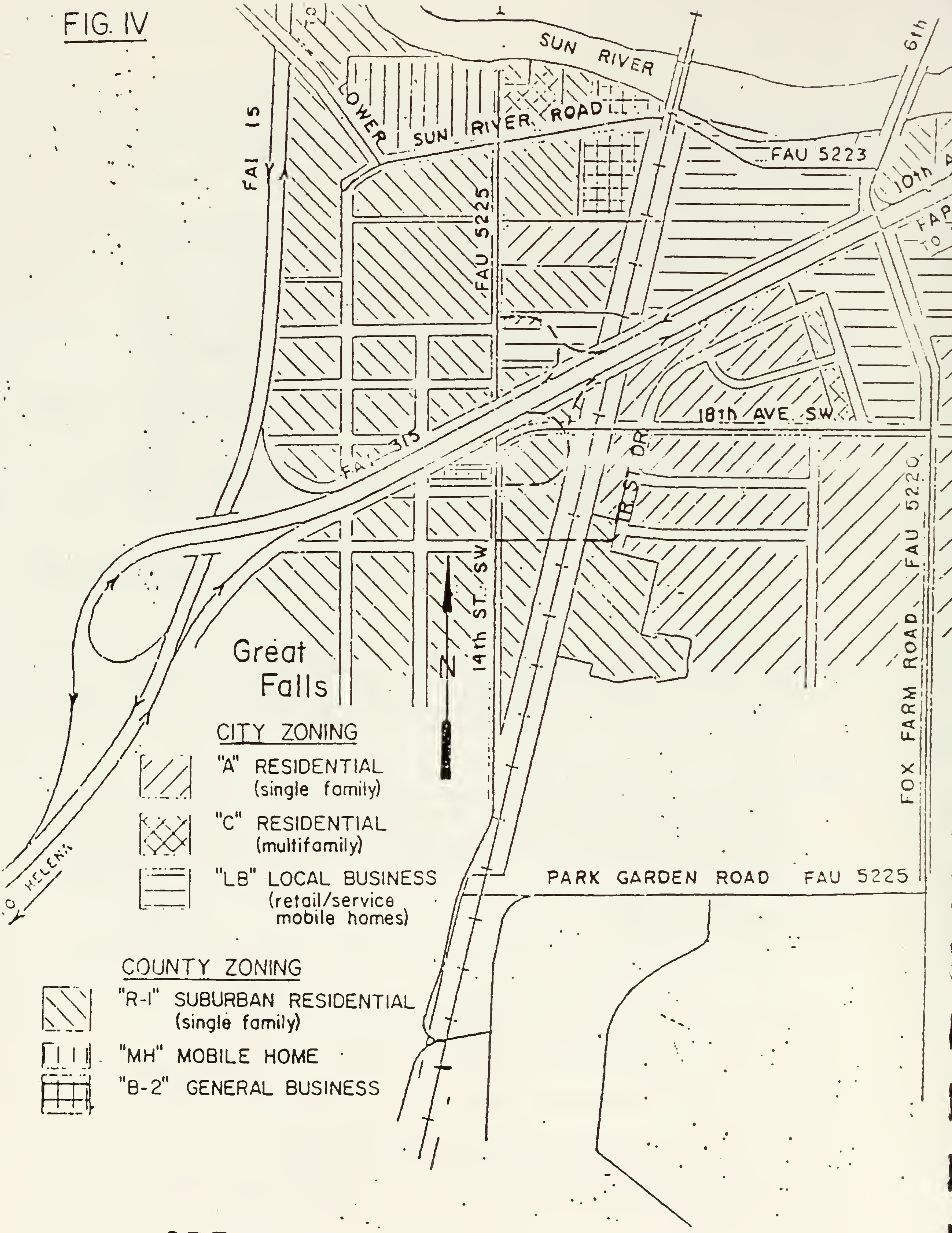
Land use adjacent to the project is varied (see Figure IV) with single-family residential being the predominant use. Those areas within the city limits are zoned as follows:

"A" - Residential - Single-Family
"C" - Residental - Multi-Family
"LB" - Local Business - Retail Service; Mobile Homes

Those areas within the county are zoned as follows:

"R-1" - Suburban Residential (Single Family)
"M-H" - Mobile Home
"B-2" - General Business

FIG. IV



GREAT FALLS - I·315 INTERCHANGE

## Land Use Impact

With this project, planned development in compliance with the existing zoning may accelerate as the area's transportation system becomes more adequate.

With the improved access, developers may request zoning changes. The interchange has been developed for the existing zoning pattern. The unexpected addition of large traffic generators, such as regional shopping centers, could exceed the capacity of the interchange.

Eight parcels of land will be subject to partial or complete acquisition. Three of the parcels are in the city limits with the remaining five outside. About seven acres of new right-of-way will be required.

Relocation assistance will be available for the residents of the twenty-four homes (including twenty mobile homes) who will be displaced. They will also receive just compensation for their property. There are ample decent, safe and sanitary housing and mobile home sites available in the Great Falls area at comparable prices. There are no minority neighborhoods in the area. Any minorities affected will not be discriminated against when receiving relocation assistance and compensation for their property.

The Department of State Lands' property in the south segment is currently held under easement by the Department of Fish, Wildlife and Parks (FWP) for its administrative site. FWP will be moving to a new location before construction of the interchange, leaving the present site vacant. The Department of Highways will inform State Lands of its proposal to use part of this area and request they not commit it to anyone else once Fish, Wildlife and Parks moves from the area.

A cul-de-sac will be created on 18th Avenue S.W. just east of the railroad tracks. No road will extend across the railroad tracks unless proposed and supported by local officials. We will consider closing and vacating 18th Avenue S.W. at the intersection with Treasure State Drive and giving half of the vacated right-of-way to each adjoining lot.

All private accesses along 14th Street S.W. will be eliminated from Station 2+25± (150 feet south of the south ramp terminal) to Station 17+03± (150 feet north of the north right-of-way line on 16th Avenue S.W.). A 60-foot public right-of-way will be provided opposite the south ramp terminal, Station 4+65, and access will be controlled 150 feet west of 14th. The approaches to the Airway Motel - Trailer Court located between the south ramp terminal and I-315 will be eliminated. An access road will be built to the new public right-of-way at Station 4+65.

A cul-de-sac will be created on 17th Avenue S.W. immediately west of 14th Street, with the bulb extending to the north. Access will be controlled on 16th Avenue S.W. 110 feet west to the lot line.

Other land use impacts are as follows:

1. Although the area east of 14th Street S.W. and north of the I-315 spur is not a first class residential area, the area may become less

attractive with increased traffic and development. The residents will benefit from the improved access. The area may become more attractive to businesses.

2. Area residents will likely find that the increased traffic volumes on 14th Street S.W. will detract from the neighborhood's attractiveness.

3. The Airway Motel - Trailer Court may attract more travelers exiting from the interstate.

Employment

Although the completed project may result in increased employment in the immediate area, it will have little impact on the long-term employment situation in the Great Falls urban area.

Population

Construction of this project will cause a small decline in population of the immediate area due to the relocation of 24 residences. However, since the families will be relocated in the vicinity, population of the Great Falls urban area will not be affected significantly. The project is basically an effect of increased development in the area rather than a cause.

Utilities

Existing utilities will be perpetuated where necessary. The utilities serving the displaced trailer court will be disconnected. Any necessary relocations will be taken care of before construction begins.

Noise

Traffic noise predictions were made using the $L_{10}$ method and the year 2000 projected peak hour traffic. Three locations along 14th Street S.W. were chosen as being representative of peak noise levels and typical of residences that might be most impacted by increased traffic noise. Trucks were estimated at 10 percent and only medium trucks were used in the noise projections.

The highest projected noise level was 71 dBA, slightly above the 70 dBA maximum noise level for residences. A difference of one dBA is not discernible to the human ear. While noise levels on 14th Street S.W. will rise slightly, noise impacts on Lower Sun River Road, 18th Avenue S.W. and Fox Farm Road should be less than if the interchange were not constructed.

Irreversible and Irretrievable Commitments of Resources

No resources other than money, labor and road building materials will be irretrievably committed to this project. The land that will be required for right-of-way will not be available for other use unless a demand greater than the roadway requires a land use change.

There does not appear to be any major irreversible commitment of resources that would significantly affect the environment in the area of the project. Therefore, the use of money, labor and materials is considered to be justified as it will provide a much needed highway facility to serve the traveling public.

## 5. COMMENTS AND COORDINATION

This project was initiated through the Great Falls Transportation Planning Process by the Technical Advisory Committee and the Policy Coordinating Committee in 1979.

An informational public meeting was held on April 15, 1981 during the initial stages of development of this project. The public voiced several concerns and suggestions at this meeting, but in general the public was supportive of the project. The City of Great Falls and the City-County Planning Board have also expressed support for this project.

There is considerable correspondence on file with the Department of Highways documenting our coordination with other federal, state and local officials. This correspondence is available for review at the Helena office.

A Location and Design Public Hearing will be held on the project to solicit comments from the public. If appropriate, following receipt of these comments, the Department of Highways will prepare a separate document recommending a "Finding of No Significant Impact" (FONSI) for the project. This will incorporate this Environmental Assessment and any other appropriate environmental information.

WMS:3:cm:242/S11

MONTANA HISTORICAL SOCIETY
HISTORIC PRESERVATION OFFICE
225 NORTH ROBERTS STREET • (406) 444-4584 • HELENA, MONTANA 59620
444-7715

October 1, 1985

Stephen C. Kologi, P.E.
Chief-Preconstruction Bureau
Montana Department of Highways
2701 Prospect Avenue
Helena, MT 59620

RE: M 5225(1)
Great Falls - I 315

Dear Steve:

Thank you for providing us with additional materials that identify, describe, or date, structures to be affected by the project identified above. We retrieved our 1983 materials and did match that up with the earlier survey information you had from HRA. Although the historical information associated with the inventory efforts does not provide much basis for assessment in that arena, we concur with your judgment that none of the properties identified could meet National Register Criteria of Significance. While the Anderson Residence appears to be a distinctive example of "picturesque" styling, popular during the 1930's and 1940's, we do not think it could be judged as possessing exceptional significance. The remainder of the properties either do not possess distinctive architectural values or have lost considerable integrity.

Thank you for clearing up review on this project.

Sincerely,

Marcella Sherfy,
State Historic Preservation Officer

File: COMP/Great Falls I-315 Interchange

Date Recd. Preconst. 10 15 85

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| | | 80 | | |
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| | | 37 Pub. Hearing | | |
| | | 38 Photogrammetry | | |
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DEPARTMENT OF HIGHWAYS

TED SCHWINDEN, GOVERNOR
2701 PROSPECT

STATE OF MONTANA

HELENA, MONTANA 59620

September 24, 1985

RE: M 5225(1)
Gt Falls - I 315 Interchange

Ms. Marcella Sherfy
State Historic Preservation Officer
Montana Historical Society
225 No. Roberts
Helena, MT 59620

Dear Marcella:

This letter is written as a follow-up to your recent conversation with Mitzi about property eligibility and effect on the I-315/14th St. S.W. Interchange project in Great Falls. Enclosed is a copy of Historical Research Associates' report of their survey in 1980. You already have a copy of the University of Montana's report. Improvements on the following properties will be acquired during the project: Hayes house (built 1940), Anderson house (built 1940), Foster house (moved 1951), and Antonson house (built 1945-6). MDOH will also acquire some of the back portion of the lot belonging to Swisher (house moved 1951). Site forms for the Anderson and Antonson places are appended to HRA's report; copies of these have just been sent to the University of Montana requesting site numbers. A site form for the Hayes house is enclosed. These are the only sites in the project area that date to or prior to World War II, according to Sandy Smith's report. None of these will be 50 years old by the time the project is constructed in 1989 and none appear to be of exceptional significance. Therefore, we expect that this interchange project will have no effect on National Register eligible sites.

Sincerely,

Stephen C. Kologi

Stephen C. Kologi, P.E.
Chief - Preconstruction Bureau

SCK/MR/pz/51
Encls.

cc: W. Walters, Location & Road Design
T. Barnard, Great Falls District

AN EQUAL OPPORTUNITY EMPLOYER

1 for ea file

DEPARTMENT OF HIGHWAYS

TED SCHWINDEN, GOVERNOR
2701 PROSPECT
STATE OF MONTANA
HELENA MONTANA 59620

October 20, 1983

RE: Cultural Resource
Reconnaissance Survey
Reports

Ms. Marcella Sherfy
Deputy State Historic Preservation Officer
Montana Historical Society
225 No. Roberts
Helena, MT 59620

Dear Marcella:

Cultural resource reconnaissance survey reports and related information for the following projects are being submitted for your review and comments:

F 1(6)379 - Havre Weigh Station
I-315/14th St. S.W Interchange, Great Falls
BR 9037(9), Dry Fork Marias
F 10-2(3)51, Loma Bridge
F 1-4(1)280, Shelby - East
FR 10-3(4)91, Box Elder - Havre

Please note that these projects are still in initial stages of design and thus construction and R/W plans were not available to our consultant. The areas requiring survey were specified by the Area Engineer, Wayne Walters. When possible, we prefer to conduct reconnaissance surveys early on in the planning process so options for avoidance are not foreclosed by R/W acquisition.

Havre Weigh Station
The proposed project scope of work and location are described in the survey report. As specific R/W requirements have not yet been developed, pedestrian survey was limited to the area indicated on the enclosed translite. Much of the project area has been subjected to modern disturbances and the survey results were accordingly negative.

I 315/14th St. SW
The proposed project scope of work and location are described in the survey report. As specific R/W requirements have not yet been developed, pedestrian survey was confined to the area indicated on the translite. Development of

AN EQUAL OPPORTUNITY EMPLOYER

this area appears to primarily post date W.W.II. Three properties within the survey area were identified by the consultant which are in the 40 year old age range. One property, the Anderson House, was recommended for further analysis. But, since it presently does not meet the 50 year age criterion, we don't agree with this recommendation. If the project is scheduled so that the Anderson home is approximately 50 years old at the time of proposed construction, we will again review the question of Register eligibility.

Loma Bridge Replacement Project
This project is located in Choteau County on U.S. 87 in the town of Loma. It includes replacement of the Loma Bridge and construction of new approaches. Built in 1936, the Loma bridge is a steel and concrete continuous Warren through truss, 1154 feet in length and 22 feet in width. Due to its [illegible] age, the Loma bridge is not included in the Historic Bridge Inventory. As R/W plans have not been developed yet the pedestrian survey was conducted in the area outlined on the translite.

The confluence of the Marias and Missouri Rivers has been the site of a number of historic events. Ft. Piegan was built at the mouth of the Marias in 1831, but the next year it was abandoned and burned by Assiniboine Indians. The Fort's location is questionable and no physical remains of it have been encountered to date. Over 30 years later the Ophir Town Company, headed by Captain James Moore, chose the confluence area as the site for the town of Ophir. Only one large log cabin, which served as the headquarters for the company, and several houses were built. In the 1870s on the south bank of the Marias River (east of the highway bridge) a trading post was operated by Murray Nicholson, Cyprian Matt and Moses Soloman. A log building, now part of a motel (see #1 on plan sheets), is the remains of the post. Johnson's service station, moved to its present site in 1934, is also located within the "area of potential environmental impact." Both structures appear to have lost their integrity of design and material through subsequent alteration.

Dry Fork of the Marias
Located in Pondera County, the proposed project involves replacement of the Dry Fork of the Marias River Bridge and construction of approaches. Built in 1918 by the Minneapolis Bridge Company, the structure is a Pratt through truss and included in Category III of the Historic Bridge Inventory. As R/W and construction plans have not been developed yet, the pedestrian survey covered the area indicated on the enclosed translite. Survey results were negative.

Shelby-East
This project primarily involves resurfacing and flattening of slopes. It begins just east of Shelby and extends southeasterly along I-15 for approximately 6½ miles. A strip of land 100 feet in width and 2400 feet in length, located on the south side of the road, is the only additional R/W required (see enclosed plans which indicate area surveyed).

Several tipi ring sites have previously been recorded in T.32 N., R.2 W. Inspection of proposed project R/W resulted in identification of two partial stone circles. Neither has been recommended as eligible due to their fragmentary nature.

Box Elder - Havre
The proposed project begins just outside of Box Elder in Hill County and extends along U.S. 87 northeasterly for approximately 10 miles. The PTW, which varies between 22-28 feet in width, will be widened to 32 feet and existing shoulders will be reinforced with gravel. On the right side of the roadway an area approximately 70 feet out from the centerline was surveyed, and on the left side the area between the roadway and BNRR tracks was surveyed. R/W and construction plans have not been developed yet so the area surveyed covered considerably more ground than is expected to be required for R/W. Three historic structures were identified during the survey. The Ball house, constructed in 1920, has lost its integrity due to extensive remodeling. The two grain elevators, constructed in 1915 and 1918, were not found to possess any architectural or historical significance. Moreover, they are located 100' from the road and outside the supposed survey corridor.

In light of the negative survey findings for the projects described above, we are requesting your certification of our compliance with Federal historic preservation requirements.

Sincerely,

Stephen C. Kologi

Stephen C. Kologi, P.E.
Chief - Preconstruction Bureau

SCK/TRF/pz/2e
Encls.

cc: Environmental Unit
Location & Road Design

University of Montana
Missoula, Montana 59812

Complet Report in Crow File

16 August, 1983

Stephen C. Kologi, Chief
Preconstruction Bureau
Department of Highways
2701 Prospect
Helena, Mt 59620

Re: Cultural Resources
Inventory

Dear Mr. Kologi:

Enclosed are two copies of the reports of our reconnaissance of two projects: FR 10-3(4)91 Box Elder - Havre; and I-315/14th Street S. W. Interchange, Great Falls.

On the Box Elder - Havre project, we found no prehistoric evidence. but we did ascertain that three buildings in Laredo are more than 50 years old. None of these appears to possess any architectural or historic significance, and we do not recommend that mitigation is needed although the house will almost certainly be in the area of impact since it is so close to the road.

On the Great Falls Interchange project. we also found nothing of cultural significance; however, in the area of land to be acquired are some houses which may be 50 years old by the time of construction (1989 or later). We have included these in the report, just for the record, although none appears to be architecturally or historically significant. with one exception. There is a brick house which was built by a brick mason; we were told that there is no woodwork (!) in the interior, just brick. The owners weren't home during the time we were in Great Falls, so we couldn't verify this claim. I have recommended that this house be evaluated by an architectural expert.

If any further information is required, please let me know immediately.

Very truly yours,

Charline G. Smith
Charline G. Smith
Department of Anthropology

Date Recd. Precons. [illegible]

| MAIL ROUTE | 33 | 33 Env. Specialties | 31 Contract Plans | Loc. Road Design | Engineering | 33 Hydraulics | 35 Surfacing Design | 38 Traffic | 37 Pub. Hearing | 33 Photogrammetry | 33 [illegible] | | | | |
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Subject: Highway Construction Project M-5225(1)
I-315/14th Street S.W. Interchange, Great Falls

> The proposed M-5225(1) I 315/14th Street Southwest Interchange involves a new two quadrant par-clo interchange in the 14th Street Southwest Great Falls area. This proposal (sic) is located on the I 315 spur in northern Montana in Cascade County near the southwest boundary of the Great Falls city limits. More specifically the proposal is located between the 14th Street Southwest and Burlington Northern Grade Separations about 1200 feet northeast of the 10th Avenue South interchange where I 15 continues to Vaughn and the I-315 spur becomes 10th Avenue South in Great Falls.
>
> This project consists of widening the bridge decks that are crossing 14th Street Southwest and the Burlington Northern Railroad tracks both on 10th Avenue South. Also included in this proposal will be deceleration lanes, grading, gravel, bituminous surfacing, drainage topsoil, seeding, signing, lighting, striping and twelve foot driving lanes for the four ramps. (Preliminary Environmental Review, Land Use Evaluation, MT. Dept. of Highways, 4th page).

The area is mixed, older homes west of the railroad tracks, and newer ones in the area east of the tracks.

> That area east of 14th Street S.W. north of 10th Avenue South and south of the Sun River is not what you would call a class IA residential area. (Preliminary Environmental Review, Land Use Evaluation, MT. Dept. of Highways, p. 11).

Our reconnaissance consisted of, first, examination of archaeological records via computer and, second, on-site examination including interviews with landowners.

The computer search yielded no known archaeological sites in or near the impact area. Inspection of the ground surface where there are no houses, i.e. along the railroad tracks, etc., was carried out. The entire area has been extensively disturbed, that is, cut, filled, excavated, etc., by all manner of construction and economic pursuits. Furthermore, rank vegetation obscured much of the surface. Nonetheless, I estimate that there is a 99 percent probability that no prehistoric cultural remains exist in the impact area.

Most of the housing in or adjacent to the area of construction is quite new. We found no homes in the fifty-year-old category. However, the projected date of construction is 1989 and by that time, several will be very close to the fifty-year mark. We include the five oldest here for future reference.

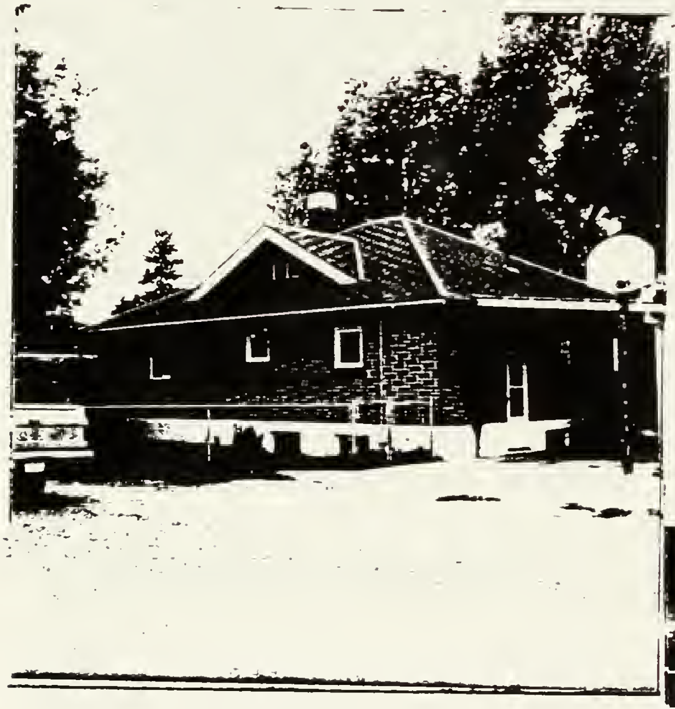
Anderson House  Sun River Bridge Garden Tracts, Lot 6B

The oldest and most interesting house in the group is a red brick structure, now surrounded by a trailer court. It was built by a brick mason, named Wells, who worked at the smelter. The brick was all specially selected from material at the smelter.

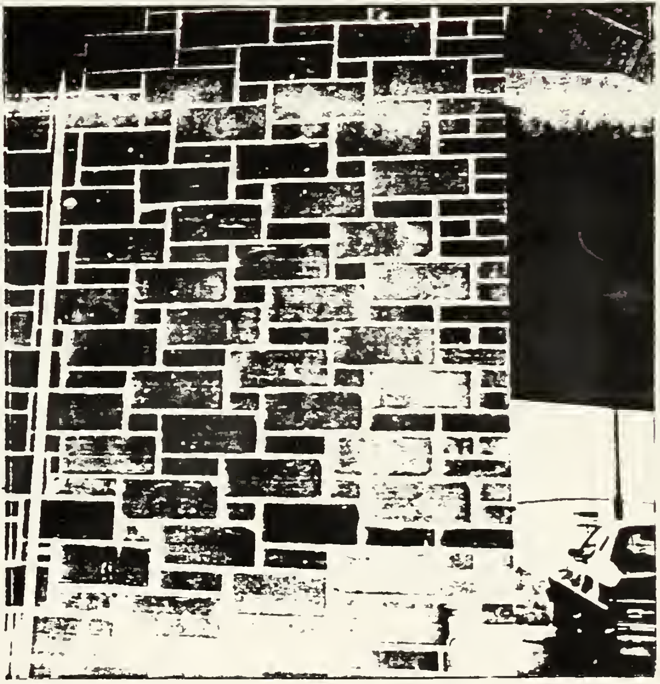
There is reportedly no woodwork in the house, but brick instead. The present owners were absent and we were unable to see the interior.

Records show that the property was bought by Wells in 1935; our informant said that the house was completed by 1940.

It is my recommendation that this house be seen and evaluated by an architectural specialist who can then recomment appropriate mitigation if such is needed.



Anderson house, side and rear view (shrubbery obscures the view of the front)



Detail of exterior brickwork on the Anderson house

Hayes house- Sun River Bridge Garden Tracts, Lot 6A
1601 14th Street

This white frame house was under construction in 1940, and was built by Ed Hayes whose widow still lives there. The stone fireplace was constructed by Well, the stone-mason.

There seems nothing architecturally or historically significant about this house that would require its preservation.

Rear view of the Hayes house
(front is hidden behind trees
and shrubbery)

Foster House- Sun River Bridge Garden Tracts, Lot 7B

This structure is part of a barracks which was moved to its present location from a military base behind the Great Falls airport less than 35 (probably 32) years ago. It has been remodelled, but is currently vacant.

In view of its re-location and remodelling, the structure probably has no architectural or historic significance, and no migitation is required.

Foster house, remodelled barracks building

Swisher house- Sun River Bridge Garden Tracts, Lot 7A
1621 14th Street

This is also part of a barracks building which had been extensively remodelled by a previous owner. It was moved in from the military base about 32 years ago. The present owner has lived in the house seven or eight years, and knows very little of its history.

This house appears to have no architectural or historic significance that would require mitigation.

Swisher house, part of a barracks building that has been remodelled

The two portions of barracks were from a military air base located 300 ft. above Great Falls at an altitude of 3,000 ft. on Gore Hill. The base, known as Gore Field, had previously been a municipal airport. Construction of military structures began in 1942. The barracks were constructed of tar paper and lined with insulating board; for this reason, the base was sometimes called "Tarpaper City". Gore field was abandoned as a military base in December 1945.

Antonson house- Sun River Bridge Garden Tracts, Lot 7

This single-story frame house was build, by Antonson, in 1945 or 1946 (he could not remember exactly). It does not seem to be remarkable either architecturally, or historically.

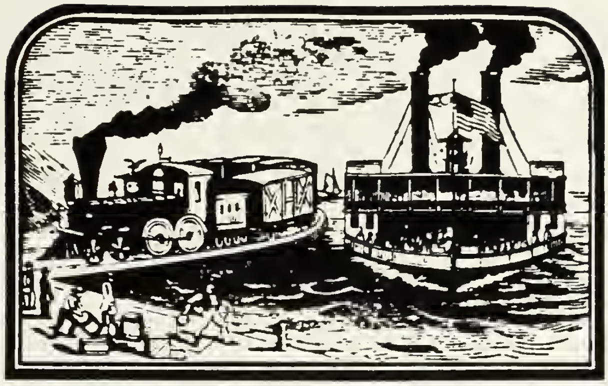
Antonson house

All the houses described above are in the area designated as land to be acquired and, presumably, the houses will either be moved or razed. With the exception, noted above, of the Anderson house, none seems to be remarkable architecturally and none seems to have any significant historic associations. With the aforementioned exception, no mitigation seems to be required on this project.

15 August, 1983

Charline G Smith

Charline G. Smith



# HRA Study

CULTURAL RESOURCE SURVEY

PROJECT NO. M 5225(1)

I-315 HALF-DIAMOND, GREAT FALLS

Submitted to

Montana Department of Highways
Helena, Montana

by

Historical Research Associates
Missoula, Montana

May 29, 1980

HRA HISTORICAL RESEARCH ASSOCIATES
P.O. Box 7086
Missoula, Montana 59807 (406) 721-1958

# CULTURAL RESOURCE SURVEY

# MONTANA DEPARTMENT OF HIGHWAYS PROJECT NO. M 5225(1)

# I-315 HALF-DIAMOND INTERCHANGE, GREAT FALLS

| | |
|---|---|
| Project Director: | Gary D. Williams |
| Principal Investigator (History): | William A. Babcock |
| Investigator (Architectural History): | Christine Amos |

# PREFACE

Historical Research Associates of Missoula, Montana, performed this cultural resource survey under contract to the Montana Department of Highways for Project No. M 5225(1), the I-315 Half-Diamond in Great Falls, Cascade County, Montana.

## TABLE OF CONTENTS

Introduction . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1

- Location. . . . . . . . . . . . . . . . . . . . . . . . . . . . 1
- Purpose of Survey . . . . . . . . . . . . . . . . . . . . . . . 1

Methods. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1

Environmental Setting. . . . . . . . . . . . . . . . . . . . . . . 4

History. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 4

Discussion of the Proposed Project . . . . . . . . . . . . . . . . 5

Impact of Proposed Project upon Cultural Resources . . . . . . . . 5

- Existing Sites. . . . . . . . . . . . . . . . . . . . . . . . . 6
- Historical/Architectural. . . . . . . . . . . . . . . . . . . . 6

Recommendations. . . . . . . . . . . . . . . . . . . . . . . . . . 7

Appendix A: Photos

Appendix B: Montana Historical and
Architectural Inventory Forms

## INTRODUCTION

### *Location*

The project is located southwest of the City of Great Falls, Montana, on 10th Avenue Southwest at 14th Street Southwest (NE 1/4 of Section 15, T20N, R3E). It consists of a half-diamond interchange at the existing grade separation at 10th Avenue South and 14th Street Southwest. It extends about 1/4 mile in length. (See map, p. 2).

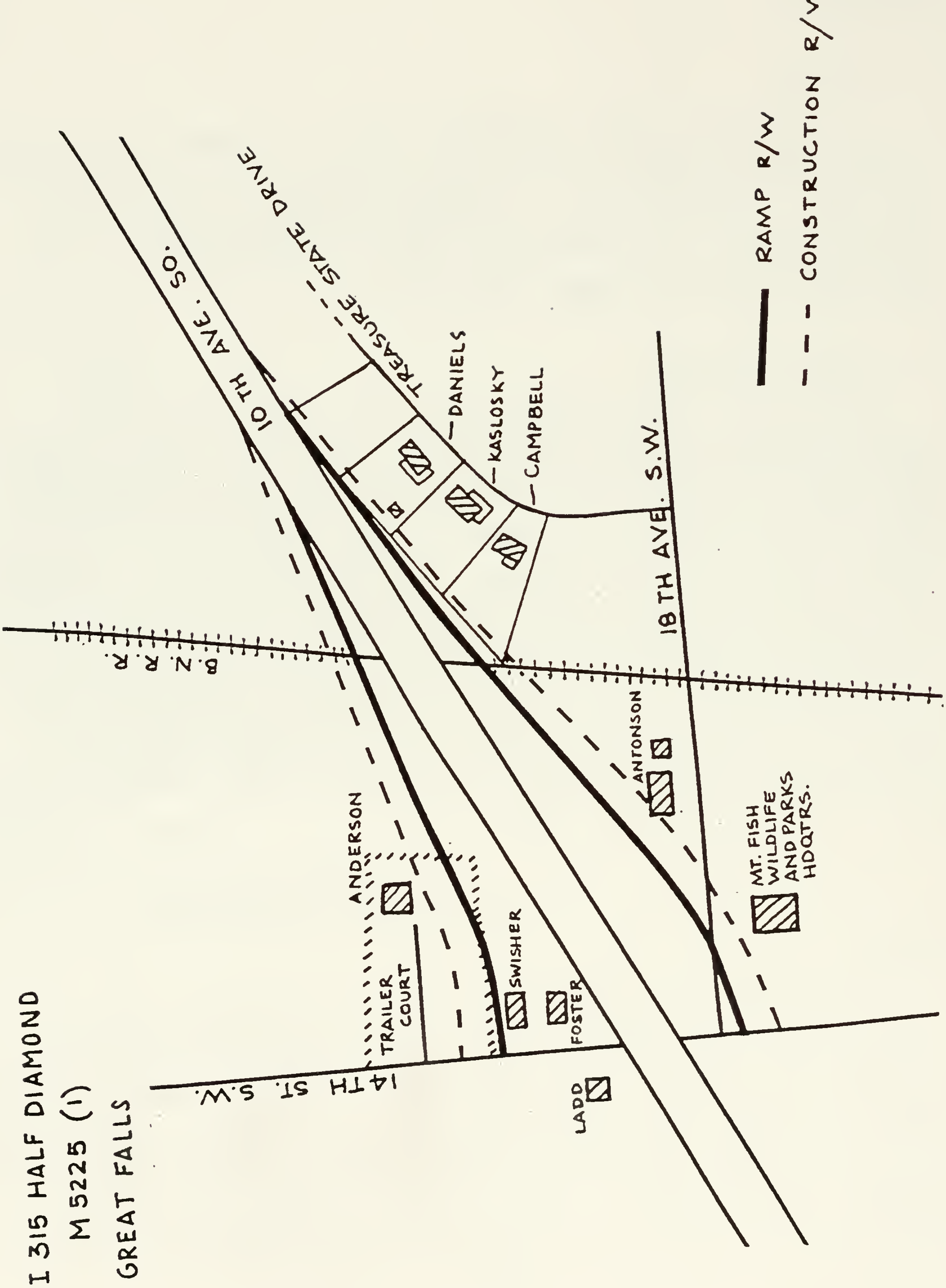
### *Purpose of Survey*

The cultural resource survey of the project area was conducted in accordance with the National Historic Preservation Act of 1966 and Executive Order 11593, Protection and Enhancement of the Cultural Environment, both of which require that all federal projects be examined for their potential impact on cultural resources. The survey was conducted to locate, to record, and to recommend for mitigation historic, archeological, and architectural resources that might be impacted by the proposed project.

The survey of the project area was conducted May 7, 1980, by historian William A. Babcock and architectural historian Christine Amos. Gary Williams was responsible for the initial evaluation phases of the study and for reviewing the final report.

## METHODS

The survey of the project area was divided into two phases. Phase I consisted of a literature and records search of materials related to the area southwest of Great Falls. Tract books and cadastral survey maps and General Land Office records were checked. Appraisal cards, Land Books and Deed Books at the Cascade County Courthouse in Great Falls were examined to date structures and to obtain names of owners of land with potentially significant sites. The State Historic Preservation Office was contacted for a record of significant cultural sites in the area.


I 315 HALF DIAMOND
M 5225 (1)
GREAT FALLS
RAMP R/W
CONSTRUCTION R/W
10 TH AVE. SO.
TREASURE STATE DRIVE
DANIELS
KASLOSKY
CAMPBELL
18 TH AVE. S.W.
B. N. R. R.
ANTONSON
MT. FISH WILDLIFE AND PARKS HDQTRS.
ANDERSON
TRAILER COURT
SWISHER
FOSTER
LADD
14 TH ST. S.W.

## ENVIRONMENTAL SETTING

The project area is located in the southwest quarter of the City of Great Falls, Montana, near the confluence of the Sun and Missouri Rivers. The topography exhibits a flat to gently rolling relief, the result of Pleistocene and Pliocene alluvium deposits, glacial drift, and the recent meanderings of the Sun and Missouri Rivers. The area was not directly affected by the Pleistocene glacial advance whose southernmost terminus is located over 50 miles north of the project area. The soils of the Missouri and Run River flood plains include silty clays, sands, and gravels. Present climatic conditions are continental. The vegetation in the general area is classified as short-grass prairie. That in the project area exhibits some deciduous trees. The area was largely undeveloped until the 1940s. However, residential and commercial development since then has necessitated the proposed interchange. The immediate project area is largely residential, consisting of frame dwellings, a trailer park, and Montana Fish, Wildlife and Parks Region 4 headquarters. The project is bisected by 10th Avenue South, which runs in a southwest-northeast direction, and by the Burlington Northern Railroad tracks, which run in a north-south direction.

## HISTORY

The area near the confluence of the Sun and Missouri Rivers is the downstream terminus of the 50-mile-long Long Pool on the Missouri River. The area along the Sun River was used as a camping and wintering site by the Indians and provided access to the Great Falls Ford. Lewis and Clark explored the area in June and July of 1805 while making their portage of the Great Falls. However, trappers generally avoided the area because of the presence of the falls and the Blackfeet Indians; government expeditions recommended avoiding it for the same reasons. The plains livestock industry was active in the area in the 1860s and 1880s as cattlemen used the ford to transfer cattle to the lush ranges of the Sun River Valley.

The City of Great Falls was established in the 1880s, but the area between the Sun River and 10th Avenue South along 14th Avenue Southwest remained largely undeveloped before World War II. The University Addition, on the west side of 10th Street Southwest near its intersection with 10th Avenue South, was platted in 1894 but some of it was returned to acreage in the 1930s. The area is outside the city limits and was unzoned until 1972. Most of its development since World War II has been residential, with trailer parks and some business. Making 10th Avenue South a four-lane limited-access highway in 1966 has further contributed to the hodge-podge character of the area's development.

## DISCUSSION OF THE PROPOSED PROJECT

The project consists of the addition of a half-diamond interchange at the existing grade separation at 10th Avenue South and 14th Street Southwest. The purpose of the project is to provide improved access to southwest Great Falls. The ramps will have 24-foot tops consisting of a 12-foot driving lane and 6-foot shoulders. It appears that new bridges will be required to carry the ramps over the Burlington Northern Railroad. A portion of 14th Street Southwest will be reconstructed to improve sight distance along it at the ramp terminals.

## IMPACT OF PROPOSED PROJECT UPON CULTURAL RESOURCES

New right-of-way will be required and several utilities will have to be moved. Several homes and trailer houses will have to be relocated. The Montana Fish, Wildlife and Parks Region 4 headquarters building probably will be left as it is, although new access will be required.

### *Existing Sites*

According to a letter from the State Historic Preservation Office, there are no historical or archeological sites previously recorded in the project area.

The area has been too heavily impacted to reveal evidence of archeological remains.

### *Historical/Architectural*

The structures to be impacted are the Antonson residence at Route 4, Box 241, the Foster residence at 1701 14th Street Southwest, the Swisher residence at 1621 14th Street Southwest, the Ladd residence at 1702 14th Street Southwest, and the Montana Fish, Wildlife and Parks Region 4 headquarters at Route 4, Box 235. The Fish, Wildlife and Parks headquarters and the Foster, Swisher and Ladd residences are all less than 40 years old and therefore do not meet National Register criteria for historic significance.

The Antonson residence may have been built before 1940. It is a one-story, single-family residence with a low hip roof and asphalt shingles. It has double-hung, multi-paned casement windows. The exterior is aluminum siding. The front stoop and foundation are poured concrete. It has an unattached garage with double half-lite doors and double-hung, multi-paned windows. Previous property owners include Carl and Mary Maas (1939), A. A. and Evelyn Pairer, and Homer Pike.

Although the structure may have been built in the late 1930s, remodeling of the windows and doors and application of aluminum siding have altered its original appearance. The foundation and the new landscaping also suggest that the structure has been moved from its original location.

Just outside the project area is the Anderson residence at 1605 14th Street Southwest. It is a one and a half-story polychrome brick, single-family residence with a low pyramidal hip roof and a side gable dormer. A front one-half porch has a gable roof with bracketed eaves, a solid balustrade and arched opening. The windows are multi-paned casement and double-hung. The foundation is concrete. The lawn is maturely landscaped with large trees and shrubs, and it is bounded by a chain-link fence. Former property owners include the State of Montana, J. A. Wells (1940) and the Anderson family.

The structure displays imagination of materials and quality craftsmanship (see Montana Historical and Architectural Inventory form), and it is of minor architectural significance. However, the surrounding trailer court has severely impacted the environmental integrity around the property.

The other structures that will be impacted in the project area are mobile homes, which do not meet National Register criteria for historic significance.

The project right-of-way passes through the north edge of property in the Montana Addition containing residences owned by Leroy V. and Rose M. Daniels at 34 Treasure State Drive, Lot 9, Block 3, Montana Addition; John A. and Gaylene Koslosky at 38 Treasure State Drive, Lot 11, Block 2, Montana Addition; and David and Gail D. Campbell at 42 Treasure State Drive, Lot 13, Block 2, Montana Addition. These residences were built since 1977 and therefore do not meet National Register criteria for historic significance.

## RECOMMENDATIONS

HRA recommends that no further archeological, historical, or architectural evaluations of the project area are necessary. The area is primarily characterized by residential development and highway fill, and it revealed no evidence of archeological remains. All but two of the structures located within or close to the project right-of-way are less than 40 years old and therefore fail to meet National Register criteria for historic significance. The Anderson residence located just north of the project right-of-way was built about 1930 but has lost its integrity of setting. The Antonson residence, which is in the project right-of-way, was built in the 1930s but alterations have compromised its architectural integrity.

# APPENDIX A

## Photos

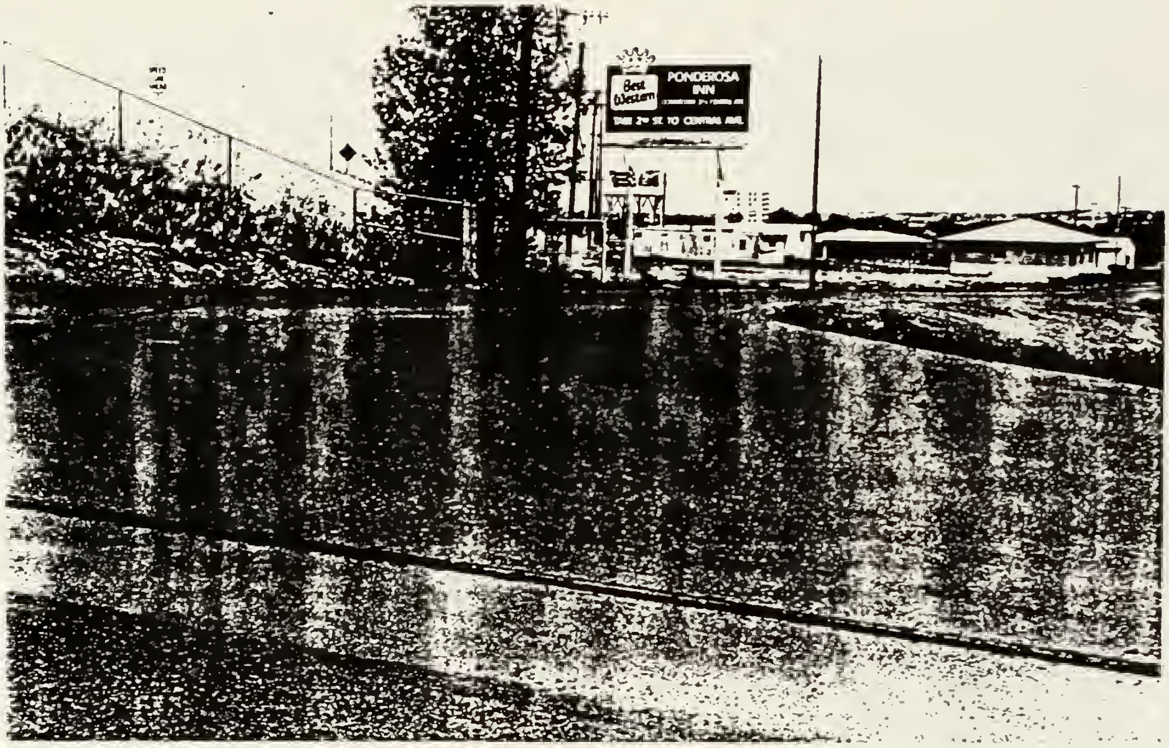


*Figure 1.* Looking east at intersection of 14th Street Southwest and 18th Avenue South near termination of proposed on-ramp. Note Antonson house in background.

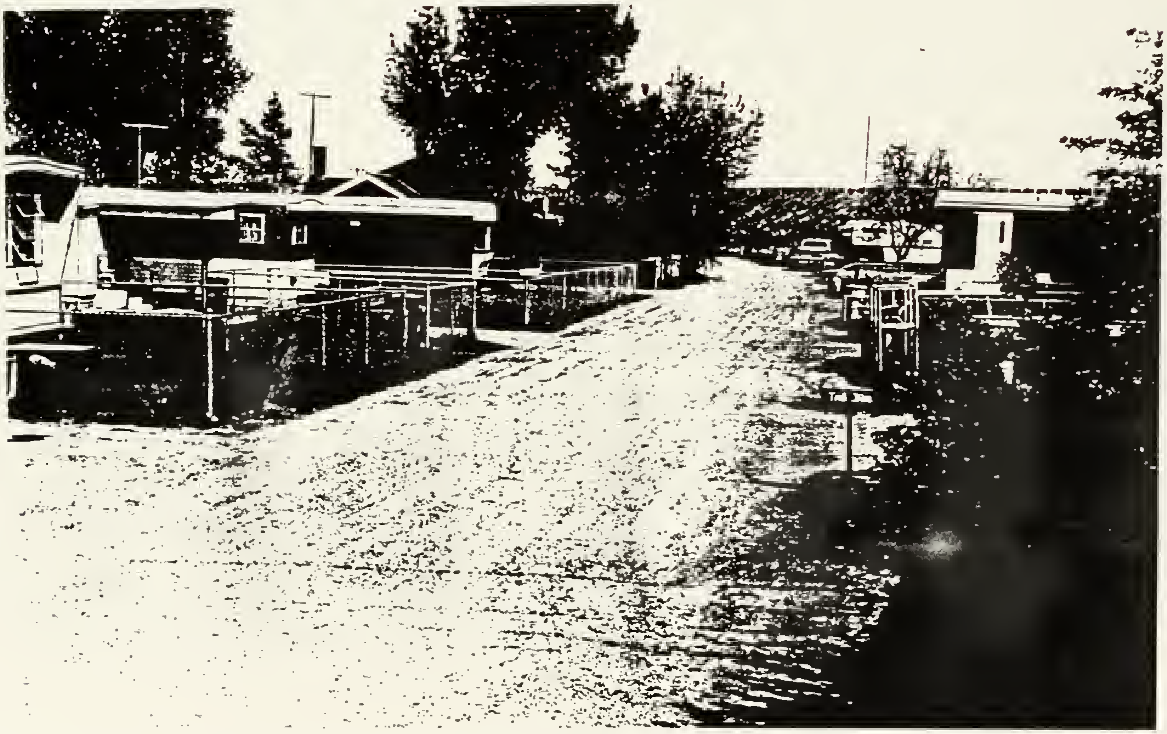


*Figure 2.* Looking east from 14th Street Southwest at trailer park near termination of proposed off-ramp. Note roof of Anderson residence at left rear.

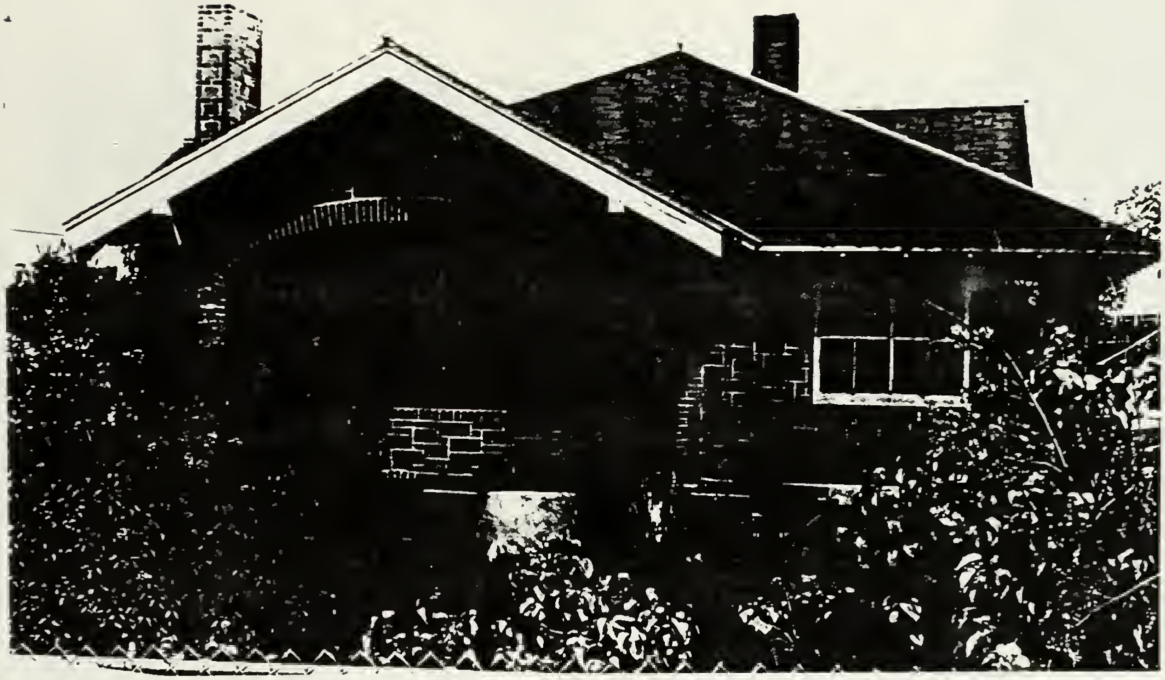


*Figure 3.* Looking east at Anderson residence (1605 14th Street Southwest).

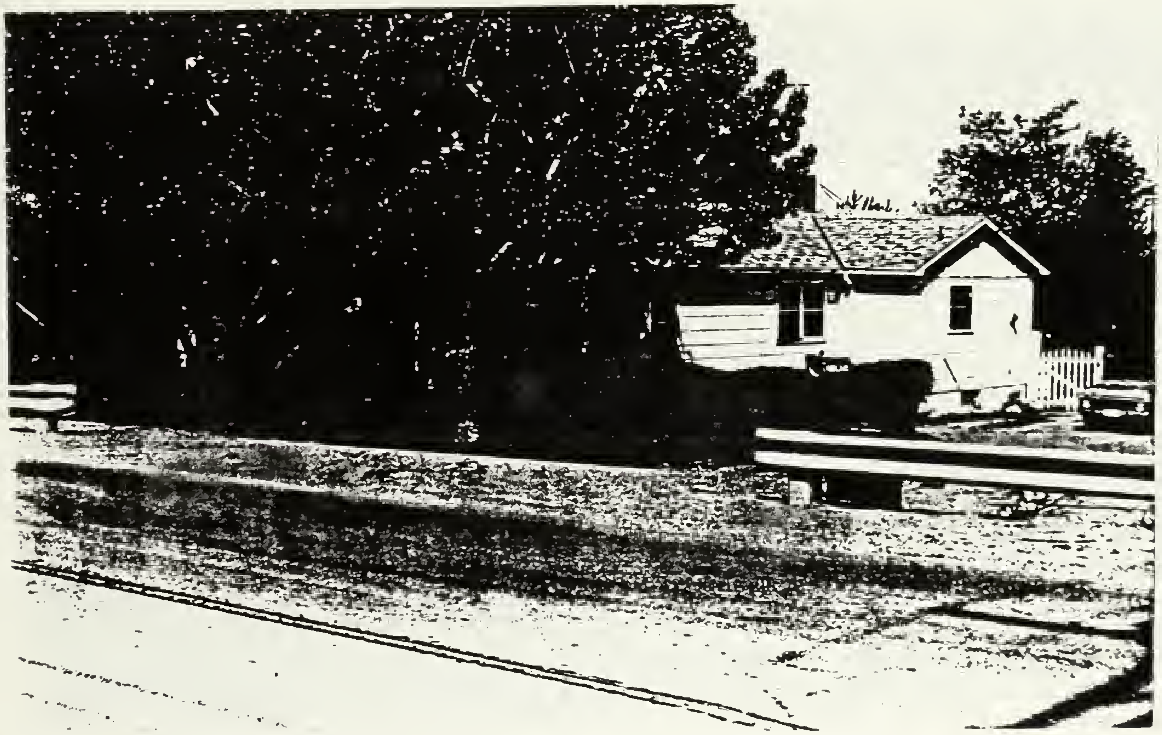


*Figure 4.* Looking east at Swisher residence (1621 14th Street Southwest).

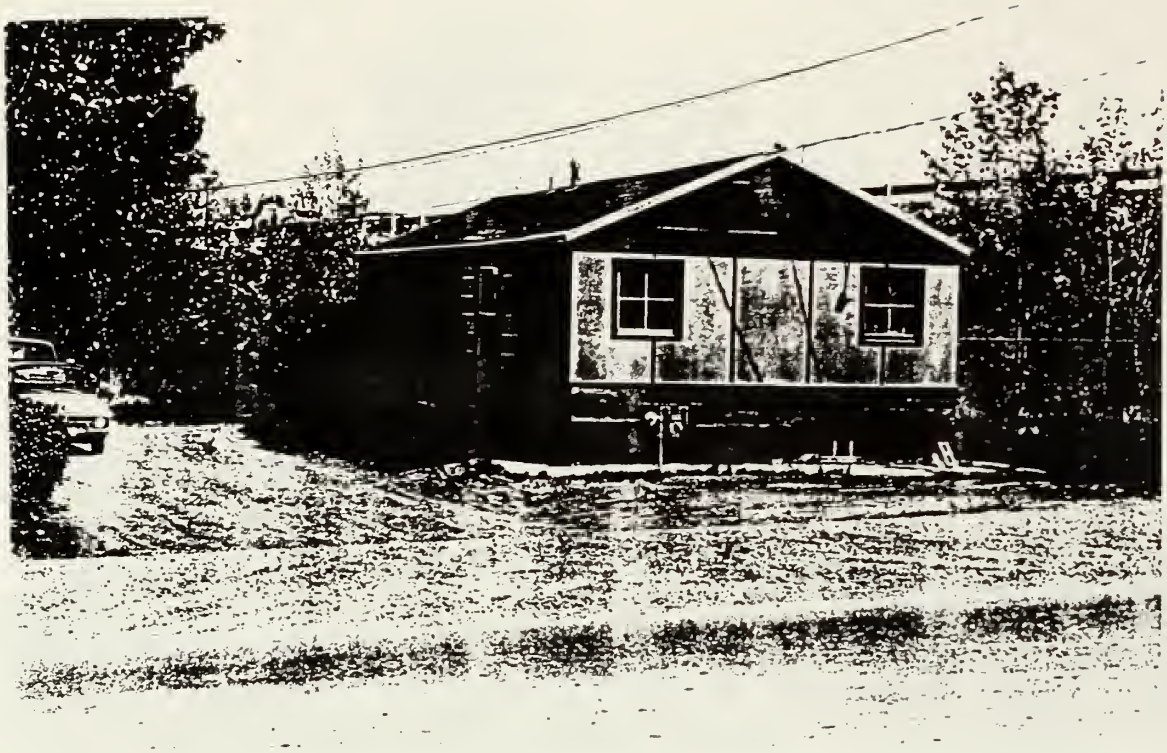


*Figure 5.* Looking east at Foster residence (1701 14th Street Southwest).

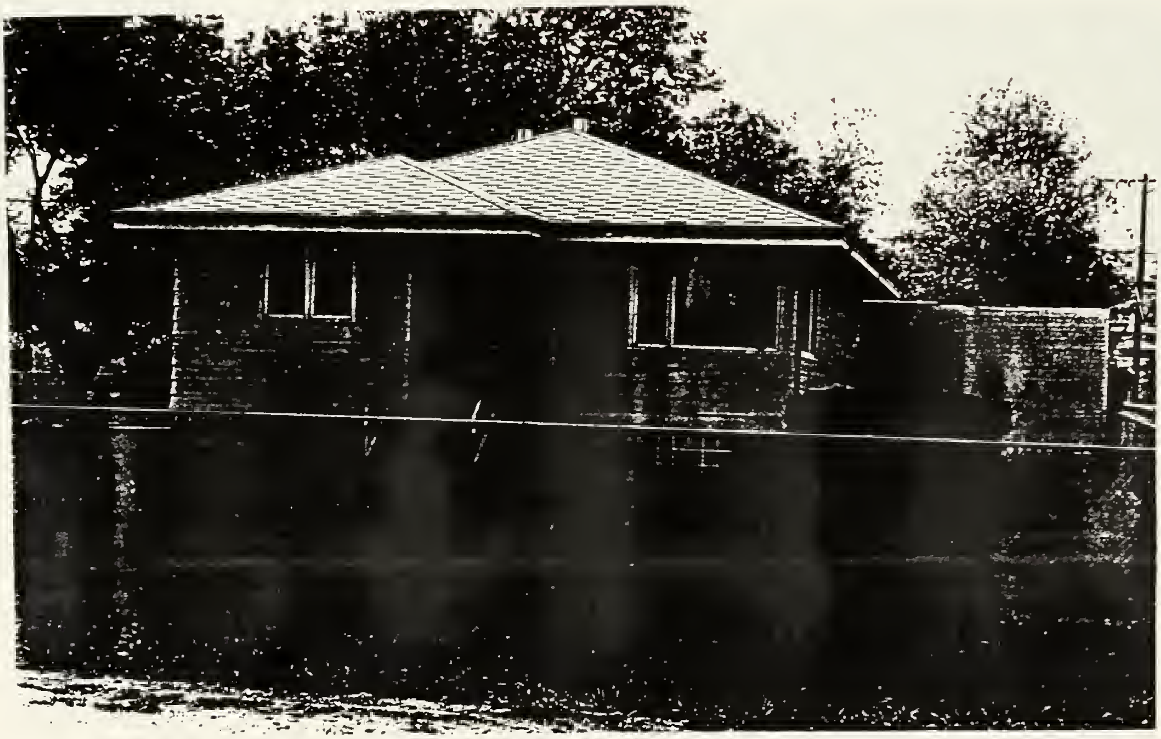


*Figure 6.* Looking west at Ladd residence (1702 14th Street Southwest).

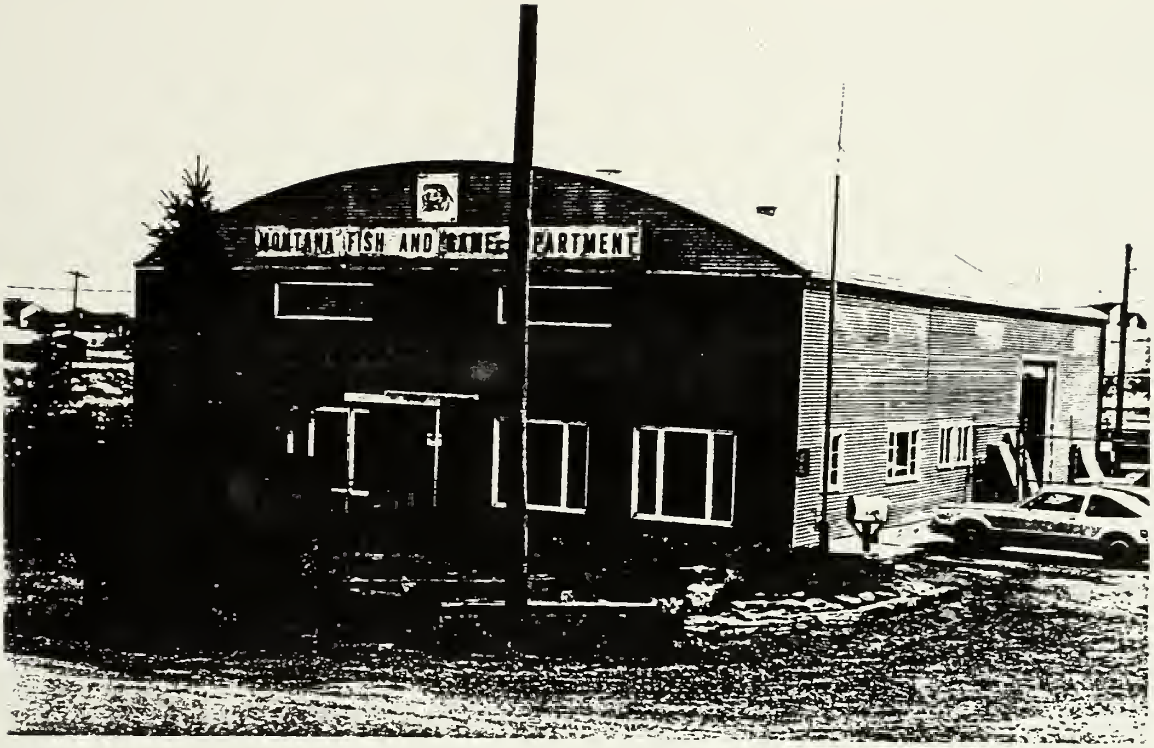


*Figure 7.* Looking south at Montana Fish, Wildlife and Parks headquarters (Route 4, Box 243).

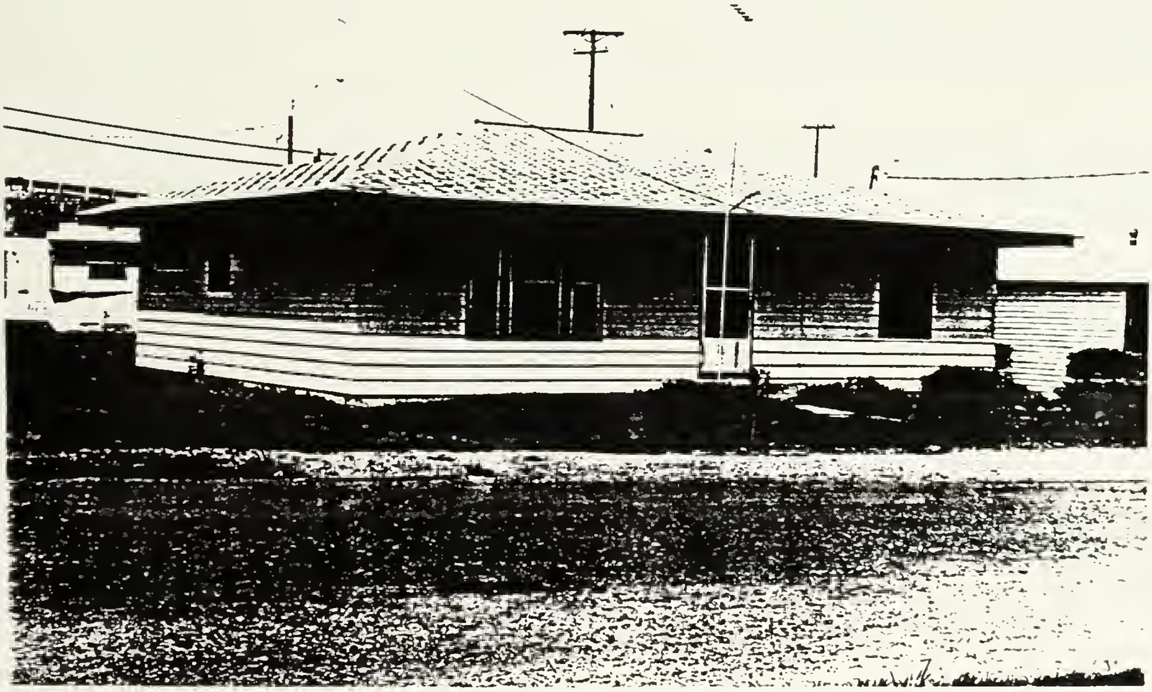


*Figure 8.* Looking northeast at Antonson residence (Route 4, Box 241).

# APPENDIX B

## Montana Historical and Architectural Inventory Forms

# ONTANA HISTORICAL & ARCHITECTURAL INVENTORY

eference Number: Date:

CONTACT PHOTO

hoto Number: Direction N NE E SE S SW W NW

istoric Name:

ommon Name:

ddress: 1605 14th Street Southwest, Great Falls, Montana

rogram Area: 6 County Code Cascade State Code Montana

egal Description: Sun River Bridge Garden Tracts, Lot 6

ner & Address: Gary and Viola K. Anderson ☐ Public ☒ Private

iefly describe the general physical appearance of the structure and site:

A 1-1/2-story polychrome brick single-family dwelling with low pyramidal hip roof and a side gable dormer. A front 1/2-porch has a gable roof with bracketed eaves, a solid balustrade, and arched opening. Windows are multi-paned casement and double-hung. The foundation is concrete. The lawn is maturely landscaped with large trees and shrubs and is bounded by a chain-link fence. The property is near, but not within, either road or construction rights-of-way.

ear Built late 1930s ☐ Factual ☒ Estimate 11 Location ☒ Original ☐ Moved

rchitect:

uilder/Original Owner:

xterior Material ☐ Stone ☒ Brick ☒ Stucco ☐ Wood ☐ Log ☐ Terra-Cotta ☒ Concrete

ther Materials:

ondition ☐ Excellent ☒ Good ☐ Fair ☐ Deteriorated ☐ In Ruins ☐ No Longer Exists

etention of Original Design ☐ Altered ☐ Major ☐ Minor ☒ Unaltered

resent Use: Residential Original Use: Residential

nvironmental/Economic Threats to Survival ☐ Private Development ☐ Zoning
☒ Public Works Projects ☐ Vandalism, Deterioration ☐ Other (specify):

Reason for Significance (justify in Item 20b) ☐ Architecture ☐ Archaeology
Community Development ☐ Cultural History ☐ Industry ☐ Economics ☐ Government
Other (specify)

Justify the significance of the structure or site:
National Register Criteria __A __B __C __D

0c Integral visual element of the landscape ☐Yes ☒No
Integral visual element of a group of structures ☐Yes ☒No
Does the property have ethnic associations ☐Yes ☒No Specify:

0d If the design, detail, material or craftsmanship makes a contribution to site/structure, describe the notable style, detail, materials, etc.:

The structure displays imagination of materials and quality craftsmanship. Three types of brick, differing in size and color, are laid for a polychrome ashlar effect. Regular brick outlines door and window openings, corners and arches. The property's integrity is intact and has minor architectural significance. However, the surrounding trailer court has severely impacted the environmental integrity around the property. The nearby highway construction would not further diminish the area's integrity, which has already been compromised by the trailer court.

21a Neigborhood Context: ☒Unrelated ☐Compatible ☐Integral element ☐Major component of neighborhood

21b If the structure/site has minor significance alone, but makes a positive contribution, briefly describe the the relationship to the context.

22 Recognition in Existing Surveys:

23 Sources of Documentation:
Cascade County Appraiser's Office, Assessor's Office, Clerk & Recorder's Office

24 Agency prepared for: Montana Department of Highways

Name/Address

Phone: Date:

Organization:

Staff Evaluator Date: Permission to Nominate ☐Yes ☐No

25 National Register Status: ☐Already listed ☐Currently nominated
☐Appears to meet NR criteria ☐Does not appear to meet NR criteria
Eligible ☐ Yes ☐No As Part of a District ☐Yes ☐No Individually ☐Yes ☐No

26 UTM References:

27 Located within potential Landmark District: ☐Yes ☐No

28 Please Return to: Historic Preservation Office
Montana Historical Society
225 N. Roberts St.
Helena, Montana 59601

ONTANA HISTORICAL & ARCHITECTURAL INVENTORY

eference Number: Date: /

hoto Number: Direction N NE E SE S SW W NW

istoric Name:

CONTACT PHOTO

ommon Name:

ddress: Route 4, Box 241, Great Falls, Montana

rogram Area: 6 Cascade County Code Montana State Code

egal Description: Sun River Bridge Garden Tracts, Lot 7

ner & Address: Erick and Sarah Antonson ☐ Public ☒ Private

iefly describe the general physical appearance of the structure and site:

One-story single-family residence with low hip roof and asphalt shingles. Windows are double-hung, multi-paned and casement. The exterior is wide aluminum siding. Front stoop and foundation are poured concrete. An unattached garage has double half-lite doors and double-hung, multi-paned windows.

ear Built ☐ Factual ☐ Estimate | 11 Location ☐ Original ☐ Moved

rchitect:

uilder/Original Owner:

xterior Material ☐ Stone ☐ Brick ☐ Stucco ☒ Wood ☐ Log ☐ Terra-Cotta ☒ Concrete

ther Materials: Aluminum siding

ondition ☐ Excellent ☒ Good ☐ Fair ☐ Deteriorated ☐ In Ruins ☐ No Longer Exists

etention of Original Design ☒ Altered ☒ Major ☐ Minor ☐ Unaltered

resent Use: Residential Original Use: Residential

nvironmental/Economic Threats to Survival ☐ Private Development ☐ Zoning
☒ Public Works Projects ☐ Vandalism, Deterioration ☐ Other (specify):

Reason for Significance (justify in Item 20b) ☐ Architecture ☐ Archaeology
Community Development ☐ Cultural History ☐ Industry ☐ Economics ☐ Government
Other (specify)

Justify the significance of the structure or site:
National Register Criteria __A __B __C __D

Integral visual element of the landscape ☐Yes☒No
Integral visual element of a group of structures ☐Yes☒No
Does the property have ethnic associations ☐Yes☒No Specify:

---

0d If the design, detail, material or craftsmanship makes a contribution to site/structure, describe the notable style, detail, materials, etc.:

Features such as the metal roof comb with ball cap ends and window style denote a late 1930's construction. However, remodeling of windows and doors and the application of aluminum siding has altered the building's original appearance. The foundation and young landscaping may also indicate the structure has been moved from its original location.

---

1a Neigborhood Context: ☐Unrelated ☒Compatible ☐Integral element
☐Major component of neighborhood

1b If the structure/site has minor significance alone, but makes a positive contribution, briefly describe the the relationship to the context.

---

2 Recognition in Existing Surveys:

3 Sources of Documentation:

Cascade County Appraiser's Office, Assessor's Office, Clerk & Recorder's Office

4 Agency prepared for: Montana Department of Highways

me/Address

one: Date:

ganization:

---

aff Evaluator Date: Permission to Nominate ☐Yes ☐No

5 National Register Status: ☐Already listed ☐Currently nominated
☐Appears to meet NR criteria ☐Does not appear to meet NR criteria
Eligible ☐Yes ☐No As Part of a District ☐Yes ☐No Individually ☐Yes ☐No

6 UTM References:

7 Located within potential Landmark District: ☐Yes ☐No

8 Please Return to:

Historic Preservation Office
Montana Historical Society
225 N. Roberts St.
Helena, Montana 59601

# APPENDIX D

# DISTRIBUTION LIST

## DISTRIBUTION LIST

Honorable Gayle Morris, Mayor
Post Office Box 5021
Great Falls, MT 59403

John Lawton, City Manager
Post Office Box 5021
Great Falls, MT 59403

John Mooney, Director
City - County Planning Board
Post Office Box 5021
Great Falls, MT 59403

Chamber of Commerce
Post Office Box 2127
Great Falls, MT 59403

U.S. Post Master
U.S. Post Office
Great Falls, MT 59401

Cascade County Planning Board
415 3rd Street Northwest
Great Falls, MT 59404

Cascade County Commission
Cascade County Courthouse
Great Falls, MT 59401

Environmental Quality Council
Office of the Director
Capitol Post Office
Post Office Box 215
Helena, MT 59620

U.S. Dept. of the Interior
Office of Environmental
Affairs
Building 56, Room 1018
Post Office Box 25007 (D-108)
Denver, CO 80225-0007

U.S. Dept. of the Interior
Director, Office of
Environmental Affairs
1849 C Street NW, Room 2340
Washington, DC 20240

Department of Health and
Environmental Sciences
Air Quality Bureau
Cogswell Building
Helena, MT 59620

Department of Natural
Resources & Conservation
Office of the Director
1520 East 6th
Helena, MT 59620

Department of State Lands
Central Land Office
8001 North Montana Avenue
Helena, MT 59601

State Clearinghouse
c/o Office of Budget &
Program Planning
Capitol Building
Helena, MT 59620

Montana Department of Education
Montana State Library
1515 East Sixth Avenue
Helena, MT 59620

Department of Fish,
Wildlife & Parks
Fisheries Division,
Stream Protection Manager
1420 East 6th Avenue
Helena, MT 59620

Department of Health and
Environmental Sciences
Water Quality Bureau
Cogswell Building
Helena, MT 59620

Richard Meisinger, Fire Chief
105 9th Street South
Great Falls, MT 59401

U.S. Dept. of Transportation
Federal Highway Administration
301 South Park, Drawer #10056
Helena, MT 59626

Department of State Lands
Office of the Commissioner
1625 11th Avenue
Helena, MT 59620

U.S. Dept. of the Interior
U.S. Geological Survey, MS-760
Chief, Environmental Impact
Assessment Program
423 National Center
Reston, VA 22092

U.S. Dept. of the Interior
Fish & Wildlife Service
1501 14th Street West
Suite 230
Billings, MT 59102

Federal Housing Administration
Office of the Director
Housing and Urban Development
Federal Office Building
301 South Park, Drawer 10095
Helena, MT 59626

Great Falls Public Schools
Larry D. Williams, Supt.
Administrative Offices
1100 4th Street South
Great Falls, MT 59405

Department of Health &
Environmental Sciences
Solid & Hazardous Waste Bureau
836 Front Street
Helena, MT 59620

Federal Emergency Mgmt. Agency
Region VIII
Federal Center, Building #710
Denver, CO 80225

E.P.A. Region 8
Environmental Review Coordinator
One Denver Place
949 - 18th Street
Denver, CO 80202-2405

Burlington Northern R.R. Inc.
Coordinator Public Works
999 3rd Avenue
2000 FIC Building
Seattle, WA 98104

Brenda's Child Care
1320 18th Avenue S.W.
Great Falls, MT 59404

Volk Construction Company Inc.
Post Office Box 2603
Great Falls, MT 59403

Circle B Landscaping
1320 18th Avenue S.W.
Great Falls, MT 59404

Airway Motel
1400 18th Avenue S.W.
Great Falls, MT 59404

Montana Motor Carriers Assn.
Post Office Box 1714
Helena, MT 59624

"ALTERNATIVE ACCESSIBLE FORMATS OF THIS DOCUMENT WILL BE PROVIDED ON REQUEST."